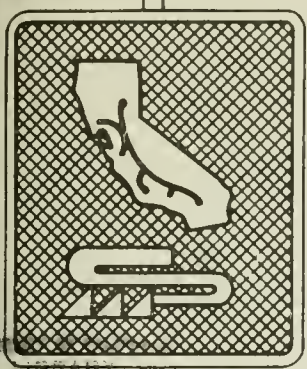




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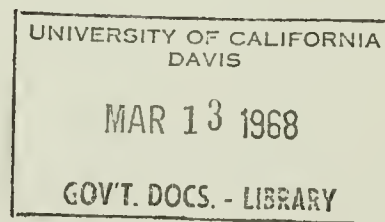
STATE OF CALIFORNIA

The Resources Agency

Department of Water Resources

BULLETIN NO. 153-68

ALLOCATIONS OF COSTS
AMONG PURPOSES
OF THE
CALIFORNIA
STATE WATER PROJECT



FEBRUARY 1968

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

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FOREWORD

Bulletin 153-68 constitutes the Department of Water Resources' annual report to the 1968 Legislature pursuant to California Statutes of 1966 (First Extraordinary Session), Chapter 27. Reported herein are the joint capital costs of facilities of the California State Water Project the Department has allocated to recreation and fish and wildlife enhancement. Also reported herein are the expenditures the Department has made for acquiring rights-of-way, easements and property for recreation development associated with such facilities.

The above enactment also provides up to \$5 million of the State's annual tideland oil and gas revenues for expenditure, by the Department, to the extent the Legislature approves the reported costs and expenditures by subsequent enactments.

Last year's Bulletin 153-67 reported \$6,047,340 for joint capital costs of completed Frenchman and Antelope Dams and Lakes allocated to recreation and fish and wildlife enhancement and \$2,213,501 for expenditures made through June 30, 1966, for recreation land acquisitions associated with all facilities.

Senate Bill 1046 was introduced during the 1967 Regular Session to provide legislative approval of the \$8,260,841 reported in Bulletin 153-67. However, the Legislative Analyst raised certain questions concerning the interpretation of the law. As a result, SB 1046 was enacted (California Statutes of 1967, Chapter 1672) with language permitting the Department's expenditure of a like amount of tideland funds but reserving to the Legislature the right to review the costs and expenditures in the future.

The Legislative Analyst's contentions were the subject of a public hearing by the Senate Committee on Water on September 6, 1967. I presented a comprehensive statement of the Department's position on the policy questions raised -- that (1) there is no ambiguity in the law, (2) what the Legislative Analyst is really arguing is that the law should be amended, and (3) the policy of the law is sound and should not be amended at this time.

This year's Bulletin 153-68 repeats the costs and expenditures reported in Bulletin 153-67, together with an additional \$4,521,114 for allocated joint capital costs, including those of Grizzly Valley Dam and Lake Davis, and \$729,339 for additional expenditures for recreation land acquisitions through June 30, 1967. The total amount, \$13,511,294, is substantiated in this report.

William R. Gianelli

William R. Gianelli, Director
Department of Water Resources
The Resources Agency
State of California
February 5, 1968

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State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

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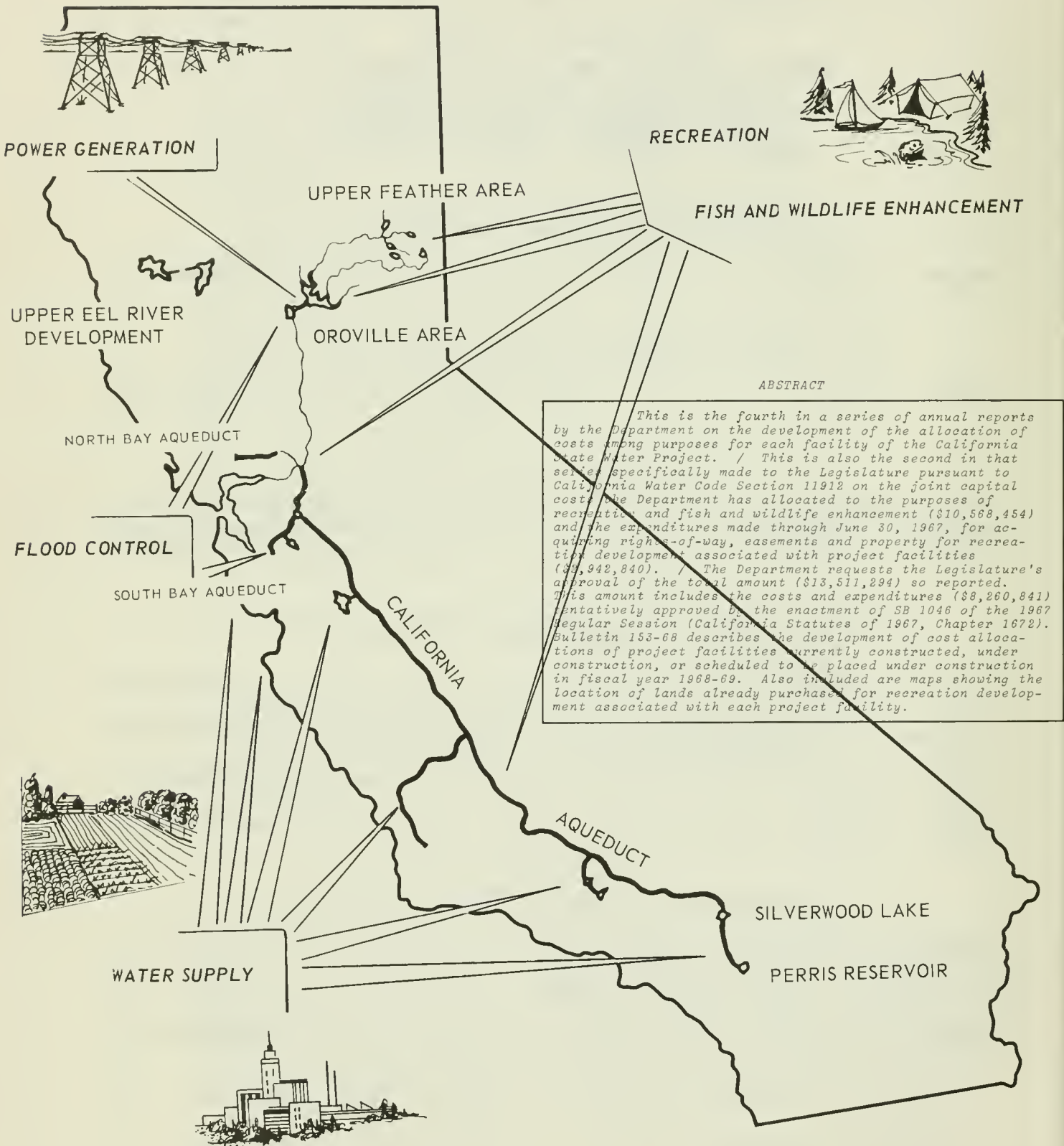
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THE CALIFORNIA STATE WATER PROJECT



CHAPTER I. INTRODUCTION

The California State Water Project will serve a number of purposes, including water supply, hydroelectric power generation, agricultural waste water disposal, flood control, recreation, and fish and wildlife enhancement.

Project costs allocable to water supply, hydroelectric power generation, and agricultural waste water disposal are reimbursable and will be repaid by project customers. Project costs allocable to flood control, recreation, and fish and wildlife enhancement are nonreimbursable and will be covered by state or federal appropriations. The Federal Government has assumed the responsibility for costs of the State Water Project allocable to flood control. The California Legislature has declared it to be the policy of this State to assume responsibility for the costs of state water projects allocable to recreation and fish and wildlife enhancement.

The Legislature's comprehensive policy concerning recreation and fish and wildlife at state water projects is set forth in the Davis-Dolwig Act, Sections 11900 through 11925 of the California Water Code. The Act, as amended by the California Statutes of 1966 (First Extraordinary Session), Chapter 27, also provides a procedure whereby the Department may obtain additional funds in an amount equal to the Department's expenditures for recreation and fish and wildlife enhancement of state water projects. In accordance with that procedure, Chapter II of this bulletin reports costs which, if approved through subsequent

enactments by the Legislature, would provide additional funds to the Department in the amount of \$13,511,294.

The long-range objective of the Department's Bulletin 153 series is to report percentages for the allocation of actual joint costs of each project facility among all purposes of the State Water Project. The immediate emphasis of this bulletin on recreation and fish and wildlife enhancement is not intended to detract from the long-range objective.

The application of allocation percentages for three completed facilities is reflected in the costs reported in Chapter II. The percentages for other project facilities are either tentative or illustrative and are subject to revision. These percentages are used for the Department's determination of current charges to project water customers. Future water charges will be adjusted to account for subsequent revisions of these percentages in accordance with the Department's "Standard Provisions for Water Supply Contract".

Chapter III presents a progress report and forecasts the financial effects of all cost allocation percentages reported to date in the Bulletin 153 series. Chapter IV summarizes the derivation of these percentages. Appendices present details of the derivation of the allocation percentages for completed project facilities, comments by other State agencies, and maps showing the location of lands purchased for recreation development.

CHAPTER II. COSTS ALLOCATED TO RECREATION AND FISH AND WILDLIFE ENHANCEMENT

The total actual cost of a project facility allocated to recreation and fish and wildlife enhancement may include:

An allocated share of joint costs - the share of costs for those physical features of the facility which can be readily identified as serving two or more project purposes, including recreation and fish and wildlife enhancement. Such features would include dams and reservoirs.

Specific costs - the costs of physical features of the facility which can be readily identified as serving either recreation or fish and wildlife enhancement, exclusively. Such features would include picnic areas and boat ramps.

Both joint costs and specific costs may, in turn, include:

Capital costs - the investment costs for planning, land acquisition, design, and construction of features.

Operating costs - the recurring costs for operation, maintenance, pumping power, and replacement (O.M.P.&R.). Under the Project's water supply contracts, operating costs may be classified as either:

Minimum O.M.P.&R. costs, which are incurred in magnitudes that do not depend upon the amounts of water delivered; or

Variable O.M.P.&R. costs, which are incurred in magnitudes that depend upon, and vary with, the amounts of water delivered.

The Department does not account and budget for all types of recreation and fish and wildlife enhancement costs. Furthermore, two types of funding are involved -- reimbursement of project fund expenditures by tideland oil and gas revenues; and, current appropriations from the General Fund.

The method of determining and funding recreation and fish and wildlife enhancement costs for the various types of costs are summarized in the tabulation below:

| Cost types | Method of determining costs | Method of funding |
|---|--|--|
| <u>Joint costs (for features jointly used by project purposes):</u> | | |
| 1. Capital costs | Percentages reported in Bulletin 153 applied to actual costs incurred. | Initially from project funds, reimbursed by tideland oil and gas revenues. <u>a/</u> |
| 2. Minimum O.M.P.&R. costs | Percentages reported in Bulletin 153 applied to actual costs incurred. | Annual appropriations from the General Fund. <u>a/</u> |
| 3. Variable O.M.P.&R. costs | A unit cost applied to actual annual quantities delivered. | Annual appropriations from the General Fund. <u>a/</u> |

Specific costs (features used exclusively for recreation and fish and wildlife enhancement):

| | | |
|---|---|--|
| 1. Capital costs for acquisition of recreation land | Totally assigned to recreation and fish and wildlife enhancement. | Initially from project funds, reimbursed by tideland oil and gas revenues. <u>a/</u> |
| 2. Other capital costs and all operating costs | Totally assigned to recreation and fish and wildlife enhancement. | Annual appropriations from the General Fund. <u>b/</u> |

a/ Accounted and budgeted by the Department of Water Resources.

b/ Accounted and budgeted by the Department of Parks and Recreation and/or the Department of Fish and Game.

Reimbursement by tideland oil and gas revenues is dependent upon a reporting and approval procedure, pursuant to California Statutes of 1966 (First Extraordinary Session), Chapter 27.

Reported Costs of Recreation
and Fish and Wildlife Enhancement

California Statutes of 1966 (First Extraordinary Session), Chapter 27, amends Water Code Section 11912 to assign the following reporting responsibilities to the Department:

"It shall be the duty of the department to report annually to the Legislature the costs, if any, which the department has allocated to recreation and fish and wildlife enhancement for each facility of any state water project. The department shall also report to the Legislature any revisions which the department makes in such allocations.

"It shall also be the duty of the department to report to the Legislature on any expenditure of funds for acquiring rights-of-way, easements and property pursuant to Section 346 for recreation development associated with such facilities...."

California Statutes of 1964 (First Extraordinary Session), Chapter 138, provides that the first \$11 million of the State's annual share of Long Beach tideland oil and gas revenues shall be deposited in the California Water Fund. California Statutes of 1966 (First Extraordinary Session), Chapter 27, also amends the 1964 enactment to provide that the next \$5 million of the State's annual share of such tideland revenues shall be deposited in the Central Valley Water Project Construction Fund -- and adds Section 11915 to the Water Code, which reads:

"11915. All moneys deposited in the Central Valley Water Project Construction Fund pursuant to the provisions of Chapter 138, Statutes of 1964, First Extraordinary Session, and all accruals to such moneys so deposited, are hereby appropriated to the department for expenditure by the department without regard to fiscal years for the purposes of the construction fund, in amounts equal to allocations to recreation and fish and wildlife enhancement and to the costs of acquiring rights-of-way, easements and property for recreation development which have become effective pursuant to Section 11912." (i.e., upon approval by the Legislature, through future enactments, of the amounts reported by the Department).

Pursuant to Water Code Section 11912, the Department hereby reports allocations and expenditures made through June 30, 1967, in accordance with the following schedules:

Joint capital costs of the State Water Project allocated to recreation and fish and wildlife enhancement:

| | |
|--|---------------------|
| (a) For Frenchman Dam and Lake..... | \$ 1,599,714 |
| (b) For Angelope Dam and Lake..... | 4,639,514 |
| (c) For Grizzly Valley Dam and Lake Davis... | 4,329,226 |
| Subtotal | <u>\$10,568,454</u> |

Specific land costs of the State Water Project in association with the following facilities:

| | |
|--|---------------------|
| (a) Frenchman Dam and Lake..... | \$ 41,494 |
| (b) Grizzly Valley Dam and Lake Davis..... | 185,380 |
| (c) Oroville Dam and Reservoir..... | 1,497,288 |
| (d) thermalito Facilities..... | 171,543 |
| (e) Del Valle Dam and Reservoir..... | 483,753 |
| (f) California Aqueduct..... | 540,922 |
| (g) San Luis Dam and Reservoir..... | 22,460 |
| Subtotal | <u>\$ 2,942,840</u> |

| | |
|-------|---------------------|
| TOTAL | <u>\$13,511,294</u> |
|-------|---------------------|

These costs are defined as to annual amounts and sources of funds in Table 1. Included are those tentatively approved by California Statutes of 1967, Chapter 1672, and those covered by the \$5,000,000 that has been appropriated to the Department to date pursuant to Water Code Section 11915.

Joint Capital Costs

The Department reports the joint capital cost of a project facility which it has allocated to recreation and fish and wildlife enhancement after completion of the facility's construction. Allocation percentages for a project facility are derived in the year preceding the year the facility's construction commences.

TABLE I

**RECREATION AND FISH AND WILDLIFE ENHANCEMENT COSTS
OF THE STATE WATER PROJECT
REPORTED TO THE CALIFORNIA LEGISLATURE
(Pursuant to Water Code Section 11912)**

| TYPE OF COSTS, PROJECT FACILITY, AND SOURCE OF FUNDS | COSTS BY CALENDAR YEAR | | | | | | | | | | | TOTAL |
|---|------------------------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-----------------------------|--------------|
| | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | Subtotal thru 6/30/67 | |
| JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND FISH AND WILDLIFE ENHANCEMENT FOR: | | | | | | | | | | | | |
| FRENCHMAN DAM AND LAKE | | | | | | | | | | | | |
| California Water Fund | \$1,617 | \$56,361 | \$31,181 | | | \$ - 12 | | | \$ - 39 | | \$ 89,108 | \$ 89,108 |
| California Water Resources Development Bond Fund | | \$21,828 | \$408,365 | \$495,784 | \$408,365 | \$219,911 | \$64,473 | \$ - 169 | \$ - 74 | | \$1,453,146 | \$1,453,146 |
| Subtotal | \$1,617 | \$109,325 | \$439,009 | \$495,784 | \$408,365 | \$219,911 | \$492,492 | \$ - 169 | \$ - 74 | | \$1,552,121 | \$1,552,121 |
| ANTELOPE DAM AND LAKE | | | | | | | | | | | | |
| General Fund | \$2,656 | \$2,656 | \$17,158 | \$17,519 | \$3,191 | \$ - 46 | \$1,865 | \$21,614 | \$ - 8 | | \$66,573 | \$66,573 |
| California Water Fund | | 297 | 13,586 | 17,203 | 193,686 | 934,608 | 21,474 | 42,422 | | | \$3,671,781 | \$3,671,781 |
| California Water Resources Development Bond Fund | | | | 203 | - 300 | - 300 | 86,658 | 431,891 | | | \$961,877 | \$961,877 |
| Central Valley Water Project Revenue Fund | | | - 315 | - 112 | - 112 | - 112 | | | | | - 427 | - 427 |
| Subtotal | \$2,656 | \$2,933 | \$30,423 | \$34,574 | \$196,873 | \$934,262 | \$2,542,659 | \$451,003 | \$259,528 | | \$4,555,410 | \$4,555,410 |
| GRIZZLY VALLEY DAM AND LAKE DAVIS | | | | | | | | | | | | |
| General Fund | \$2,194 | \$2,194 | \$12,969 | \$13,995 | \$1,988 | \$115,166 | \$154,136 | \$ - 716 | \$3,278 | | \$29,259 | \$29,259 |
| California Water Fund | | | | | | | | | | | \$3,671,781 | \$3,671,781 |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$3,671,781 | \$3,671,781 |
| Subtotal | \$2,194 | \$2,194 | \$12,969 | \$13,995 | \$1,988 | \$115,166 | \$154,136 | \$ - 716 | \$3,278 | | \$3,671,781 | \$3,671,781 |
| TOTAL | \$6,147 | \$114,711 | \$486,401 | \$544,353 | \$607,226 | \$1,269,000 | \$2,784,247 | \$95,537 | \$1,333,123 | \$1,703,935 | \$10,133,979 | \$10,133,979 |
| SPECIFIC LAND COSTS IN ASSOCIATION WITH: | | | | | | | | | | | | |
| FRENCHMAN DAM AND LAKE | | | | | | | | | | | | |
| General Fund | | | \$42,059 | | | | | | | | \$42,059 | \$42,059 |
| California Water Resources Development Bond Fund | | | | | | | | | | | - 565 | - 565 |
| Subtotal | | | \$42,059 | | | | | | | | \$41,494 | \$41,494 |
| GRIZZLY VALLEY DAM AND LAKE DAVIS | | | | | | | | | | | | |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$177,092 | \$177,092 |
| Subtotal | | | | | | | | | | | \$177,092 | \$177,092 |
| OROVILLE DAM AND RESERVOIR | | | | | | | | | | | | |
| California Water Fund | | | \$13,186 | \$19,280 | \$32,874 | \$5,625 | | | | | \$100,965 | \$100,965 |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$1,377,066 | \$1,377,066 |
| Subtotal | | | \$13,186 | \$19,280 | \$32,874 | \$5,625 | | | | | \$1,478,031 | \$1,478,031 |
| TRINITY DAM AND RESERVOIR | | | | | | | | | | | | |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$43,445 | \$43,445 |
| Subtotal | | | | | | | | | | | \$43,445 | \$43,445 |
| DEL VALLE DAM AND RESERVOIR | | | | | | | | | | | | |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$162,257 | \$162,257 |
| Subtotal | | | | | | | | | | | \$162,257 | \$162,257 |
| SAN LUIS DAM AND RESERVOIR | | | | | | | | | | | | |
| California Water Fund | | | | | | | \$1,510 | | | | \$1,510 | \$1,510 |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$20,292 | \$20,292 |
| Subtotal | | | | | | | \$1,510 | | | | \$21,802 | \$21,802 |
| CALIFORNIA AGRICULTURE | | | | | | | | | | | | |
| California Water Fund | | | | | | | | | | | \$33,447 | \$33,447 |
| California Water Resources Development Bond Fund | | | | | | | | | | | \$11,202 | \$11,202 |
| Subtotal | | | | | | | | | | | \$44,649 | \$44,649 |
| TOTAL | | | \$42,059 | | | | | | | | \$21,802 | \$21,802 |
| TOTAL RECREATION AND FISH AND WILDLIFE ENHANCEMENT COSTS: | | | | | | | | | | | | |
| General Fund | \$6,147 | \$114,711 | \$338,460 | \$544,353 | \$634,919 | \$1,324,380 | \$2,896,570 | \$1,090,638 | \$2,072,907 | \$2,714,593 | \$12,867,597 | \$12,867,597 |
| California Water Fund | | | \$90,398 | \$17,519 | \$3,191 | \$ - 58 | \$1,865 | \$21,614 | \$3,239 | \$21,593 | \$286,999 | \$286,999 |
| California Water Resources Development Bond Fund | | | \$238,377 | \$27,149 | \$32,008 | \$1,325,510 | \$2,744,069 | \$2,334 | \$ - 17 | \$17 | \$5,282,287 | \$5,282,287 |
| Central Valley Water Project Revenue Fund | | | - 315 | - 112 | - 112 | - 1,072 | \$150,636 | \$1,066,690 | \$2,069,685 | \$2,692,983 | \$11,139,619 | \$11,139,619 |
| GRAND TOTAL | \$6,147 | \$114,711 | \$338,460 | \$544,353 | \$634,919 | \$1,324,380 | \$2,896,570 | \$1,090,638 | \$2,072,907 | \$2,714,593 | \$12,867,597 | \$12,867,597 |

b/ Negative values result from the application of miscellaneous income (such as rights-of-way rentals) to the capital costs of the associated facility.

c/ Interest charges on the above annual expenditure from the California Water Resources Development Bond Fund at 3.709 percent per annum.

d/ Based on the application of the respective percentages summarized in Table 1 to the annual capital costs of completed project facilities.

e/ Amounts represent 55 percent of the total costs of acquiring recreation land.

f/ Of this total amount, \$1,242,324 was expended from special appropriations and \$4,280,663 from the continuing appropriation under the Burns-Porter Act.

g/ This amount includes the costs tentatively approved by the Legislature through enactment of Senate Bill 1046 of the 1967 Regular Session. If the \$13,511,294 in costs were approved by the Legislature, \$9,511,294 in funds remain to be made available to the Department over-and-above the \$5,000,000 reimbursed to date.

Construction has been completed for three facilities of the State Water Project, all located in the Upper Feather River Area -- Frenchman Dam and Lake in 1961, Antelope Dam and Lake in 1964, and Grizzly Valley Dam and Lake Davis in 1967.

Allocation Percentages. The Department has determined the following allocation percentages for completed project facilities:

| <u>Completed facilities</u> | <u>Percent of joint capital costs allocable to recreation and fish and wildlife enhancement</u> |
|-----------------------------------|---|
| Frenchman Dam and Lake | 50.0 |
| Antelope Dam and Lake | 100.0 |
| Grizzly Valley Dam and Lake Davis | 94.9 |

The derivation of the above allocation percentages is summarized in Chapter IV. Details of the Frenchman Dam and Lake and Grizzly Valley Dam and Lake Davis allocations are contained in Appendices A and B, respectively.

Review by Concerned State Departments. Section 11912 of the California Water Code also provides that:

"The department shall submit each such cost allocation to the Department of Parks and Recreation and to the Department of Fish and Game. The Department of Parks and Recreation and the Department of Fish and Game shall file with the Department of Water Resources their written comments with respect to each such cost allocation, which written comments shall be included in the report required by this section."

The written comments of the Departments of Parks and Recreation and Fish and Game, concerning the amounts shown in Table 1, are included herein as Appendices C and D, respectively.

Specific Land Costs

Section 346 of the California Water Code authorizes the Department to acquire lands for recreation development associated with state water projects, and provides that:

" . . . Any funds, including but not limited to water resources development funds, heretofore or hereafter appropriated to the department for the acquisition of rights-of-way, easements, and property...."

may be used for such acquisition.

Under this authority, the Department is purchasing recreation lands concurrently with those for facilities authorized under the Burns-Porter Act, with funds provided under the Act, in order to decrease the total land costs of the Project and to acquire property in an orderly manner. Recreation lands acquired for each project facility through June 30, 1967, are shown on the plates attached to the end of this report.

The Department reports the annual expenditure of project funds for acquiring all lands associated with recreation development in the year following the fiscal year in which the expenditure was made.

The specific costs of recreation lands generally are established when acquired and will not be affected by future revisions of allocation percentages for the associated project facilities. However, the reported cost of certain lands may be subsequently reduced due to the receipt of contributions from nonproject funds (such as federal grants and miscellaneous income from right-of-way sales) or due to the modification of the recreation land use plan. In these instances, the amounts to be

reported in future years will include a credit for any reduction in previously reported costs, together with appropriate interest thereon. If land originally purchased for recreation development is sold, or if nonproject money is received, the amount of the receipt will be reported as a negative project expenditure for the associated facility in the year received. If land originally purchased for recreation development is reclassified as project land, the original purchase price, together with appropriate interest thereon, will be reported as a negative expenditure in the year the modification occurs.

Possible Revisions - Federal Grants. The Department has signed two contracts with the Federal Government, and has an approved application for another, covering grants under the federal Open Space Act (Title 42, U.S.C., Section 1500, et seq.). One contract relates to Silverwood Lake and Perris reservoir, and the other, to Castaic reservoir. The approved application relates to Del Valle reservoir. The grants would pay up to 30 percent of the acquisition costs for lands reserved for open space uses at these reservoirs. The following approximate amounts are involved for open space lands associated with the following project facilities:

| | |
|--------------------------|--------------------|
| Silverwood Lake..... | \$ 138,000 |
| Perris Reservoir..... | 751,000 |
| Castaic Reservoir..... | 592,000 |
| Del Valle Reservoir..... | 144,000 |
| Total | <u>\$1,625,000</u> |

A delay in securing these funds has been caused by changes in reservoir sizes and method of operation for the

reservoirs located in Southern California. No final recreation land use plans have been established for these sites. Thus, Table 1 does not report any costs of acquiring lands for recreation development associated with these facilities. However, mutually agreeable procedures recently have been developed between the Department and the federal Department of Housing and Urban Development, which administers the Act. Approximately \$1 million of the \$1.6 million approved grants is expected to be received during the current fiscal year.

Possible Revisions - Modification of Recreation Land Use Plans. The recreation land use plan for a project facility may be modified in the future. As an example of a potential modification, certain expenditures shown in Table 1 for the acquisition of recreation land associated with the California Aqueduct would be eliminated under implementation of the recommendations of the Task Force appointed by the Administrator of the Resources Agency in February 1967. These recommendations are included in the Resources Agency's "Report of the Recreation Task Force on the State Water Project", dated August 1967, and were the subject of a public hearing held by the Senate Committee on Water Resources in Sacramento, on November 14, 1967.

Interest Charges

Interest charges shown in Table 1 are based upon only the portion of annual costs financed by the California Water Resources Development Bond Fund.

The calculation of interest charges is based upon the "project interest rate" prevailing on June 30, 1967 -- 3.709 percent -- for the period extending from the mid-point of the year in which the respective costs were incurred to either:

a. June 30, 1967, for the costs that the Department considers to have been reimbursed by funds made available during 1967 pursuant to Water Code Section 11915; or

b. June 30, 1968, for the remaining costs that the Department assumes will be reimbursed during 1968, for purposes of Table 1.

Funds Made Available to Date. Senate Bill 1046 was introduced in the 1967 Regular Session to provide legislative approval for \$8,260,841 of allocations and expenditures reported in Bulletin 153-67. The Legislative Analyst raised certain questions concerning the interpretation of the law and, as a result, the Bill was enacted (California Statutes of 1967, Chapter 1672) with language releasing the funds but reserving to the Legislature the right to review the costs and expenditures in the future.

The following amounts have been deposited into the Central Valley Water Project Construction Fund pursuant to California Statutes of 1966 (First Extraordinary Session), Chapter 27:

| | |
|-------------------|--------------------|
| February 28, 1967 | \$ 74,744 |
| March 28, 1967 | 1,451,434 |
| April 24, 1967 | 1,840,800 |
| May 24, 1967 | 1,277,402 |
| July 27, 1967 | 355,620 |
| Total | <u>\$5,000,000</u> |

Senate Bill 1046 became effective on November 8, 1967 -- 61 days after adjournment of the 1967 Regular Session. The foregoing amounts deposited in the Central Valley Water Project Construction Fund were available to the Department for expenditure as of that date.

Costs Reimbursed to Date. The Department intends to follow an administrative procedure whereby the funds made available shall be considered to be applied to allocations and expenditures reported pursuant to Water Code Section 11912, and approved by the Legislature, for the various project facilities in the order of priority that construction of such facilities are completed.

All joint capital costs allocated to recreation and fish and wildlife enhancement for Frenchman Dam and Lake (\$1,599,714) and all specific recreation land costs associated with that project facility (\$41,494) are shown in Table 1 to be covered by a portion of the \$5,000,000 made available to date. The remaining portion (\$3,358,792) of the \$5,000,000 has been applied to the costs reported for Antelope Dam and Lake. However, \$1,280,722 of the recreation and fish and wildlife enhancement costs of that project facility remain to be covered by funds to be made available in the future. Any remaining future funds would be applied to the allocated joint capital costs and specific recreation land costs for Grizzly Valley Dam and Lake Davis, and so on, in the order of sequence that construction will be completed on the respective facilities of the State Water Project.

There will be future instances whereby the reported costs of a facility may require adjustment even though all costs of such a facility have been previously considered as reimbursed.

Reconciliation with Costs Previously Reported.

A comparison of recreation and fish and wildlife enhancement costs of the State Water project as reported herein and as reported in last year's Bulletin 153-67 is shown in Table 2 and is explained in the following paragraphs:

TABLE 2

COMPARISON OF RECREATION
AND FISH AND WILDLIFE ENHANCEMENT COSTS
REPORTED IN BULLETINS 153-67 AND 153-68

| TYPE OF COSTS and project features | : Bulletin 153-68 | : Bulletin 153-67 | : Change :[(1) - (2)] |
|---|----------------------|----------------------|----------------------------|
| JOINT CAPITAL COSTS ALLO- CATED TO RECREATION AND FISH AND WILDLIFE ENHANCE- MENT FOR: | | | |
| Frenchman Dam and Lake | \$ 1,599,714 | \$1,537,395 | \$ 62,319 |
| Antelope Dam and Lake | 4,639,514 | 4,509,945 | 129,569 |
| Grizzly Valley Dam and Lake Davis | 4,329,226 | 0 | 4,329,226 |
| TOTAL | \$10,568,454 | \$6,047,340 | \$4,521,114 |
| SPECIFIC LAND COSTS IN ASSOCIATION WITH: | | | |
| Frenchman Dam and Lake | \$ 41,494 | \$ 45,694 | \$ -4,200 |
| Grizzly Valley Dam and Lake Davis | 185,380 | 40,674 | 144,706 |
| Oroville Dam and Reservoir | 1,497,288 | 1,460,676 | 36,612 |
| Thermalito Facilities | 171,543 | 175,605 | -4,062 |
| Del Valle Dam and Reservoir | 483,753 | 0 | 483,753 |
| San Luis Dam and Reservoir | 22,460 | 22,034 | 426 |
| California Aqueduct | 540,922 | 468,818 | 72,104 |
| TOTAL | \$ 2,942,840 | \$2,213,501 | \$ 729,339 |
| GRAND TOTAL | \$13,511,294 | \$8,260,841 | \$5,250,453 |

Joint Capital Costs. Though construction is complete for Frenchman and Antelope Dams and Lakes, the reported allocated capital costs of the two facilities increased about \$192,000 during the past year. About \$17,000 of the increase is due to additional interest charges on those expenditures financed from the California Water Resources Development Bond Fund. Interest charges in last year's report were reported to June 30, 1967, at the then prevailing "project interest rate" of 3.573 percent per annum. The remainder of the increase is due, primarily, to the current construction of the Beckworth Operations and Maintenance Center near the City of Portola. The Center will be required for the operation and maintenance of the dams and reservoirs of the Upper Feather River area -- thus, the costs of the Center will be distributed among these facilities. The total capital cost of the Beckwourth Operations and Maintenance Center is estimated to be about \$300,000. Construction is scheduled for completion in June 1968.

Specific Land Costs. Expenditures for recreation lands increased about \$729,000 during the past year. The inclusion of costs of acquiring lands associated with Del Valle Reservoir, with approval of the recreation land use plan during the past year, accounted for most of the increase (about \$467,000). Additional acquisitions of recreation land associated with Grizzly Valley Dam and Lake Davis (about \$138,000) and additional interest charges on expenditures financed by the California Water Resources Development Bond Fund (about \$111,000) account for most of the remaining increase.

Recreation and Fish and Wildlife Enhancement Costs
Not Reported

Allocations and expenditures that the Department does not report pursuant to Water Code Section 11912 are to be covered by General Fund appropriations, under the legislative intent expressed in Section 11913. Annual appropriations from the General Fund are summarized in Table 3 for joint operating costs of project facilities allocated to recreation and fish and wildlife enhancement and for specific capital costs (other than those for land acquisitions) and specific operating costs of recreation developments associated with such facilities.

TABLE 3

GENERAL FUND APPROPRIATIONS FOR RECREATION
AND FISH AND WILDLIFE ENHANCEMENT COSTS
OF THE STATE WATER PROJECT

(in thousands of dollars)

| Item | Fiscal Year | | | | | | | |
|--|-------------|------|-------|-------|-------|------|-------|----|
| | : | : | : | : | : | : | : | : |
| | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | |
| | -63 | -64 | -65 | -66 | -67 | -68 | -69 | a/ |
| Joint Operating Costs: ^{b/} | | | | | | | | |
| Frenchman Lake | 11 | 11 | 9 | 7 | 15 | 9 | 10 | |
| Antelope Lake | - | 15 | 15 | 16 | 17 | 18 | 26 | |
| Lake Davis | - | - | - | 10 | 15 | 17 | 18 | |
| California Aqueduct | - | - | - | - | - | - | 500 | |
| Subtotal | 11 | 26 | 24 | 33 | 47 | 44 | 554 | |
| Specific Capital Costs Other Than Those for Land Acquisitions: | | | | | | | | |
| Planning | 96 | 119 | 209 | 198 | 237 | 235 | 155 | |
| Design and Construction | 488 | 689 | 1,126 | 2,553 | 6,297 | 30 | 1,695 | |
| Subtotal | 584 | 808 | 1,335 | 2,751 | 6,534 | 265 | 1,850 | |
| Specific Operating Costs | - | - | - | - | - | 150 | 150 | c/ |
| TOTAL | 595 | 834 | 1,359 | 2,784 | 6,581 | 459 | 2,554 | |

a/ Proposed budget amounts.

b/ Not including allocated general operating costs.

c/ For recreation developments at Oroville and San Luis reservoirs.

CHAPTER III. PROJECTED EFFECT OF COST ALLOCATIONS

The Department's Bulletin 132 series is intimately related to the Bulletin 153 series. The former constitutes the Department's annual report on the construction, operation, financing, and management of the California State Water Project.

The projected costs and water use reported in the Bulletin 132 series form a basis for any new and/or revised allocation percentages reported in the Bulletin 153 series. The allocation percentages reported in the Bulletin 153 series, in turn, are reflected in the annual reanalysis of the Project's financial program reported in the Bulletin 132 series.

This chapter summarizes the effect of those allocation percentages reported herein upon the costs reported in Bulletin 132-67, "The California State Water Project in 1967".

Summary of Allocation Percentages

The allocation percentages reported herein for State Water Project facilities are summarized in Table 4.

The Department's cost allocation percentages are determined so as to apply to the joint capital costs and joint "minimum" operations, maintenance, power, and replacement costs of project facilities. The allocation of total joint costs of a project facility among project purposes is determined by applying the appropriate allocation percentages to the actual capital costs and "minimum" operations, maintenance, power, and replacement costs incurred -- and an annually determined share of any

"variable" operations, maintenance, power, and replacement costs which may be incurred, based upon actual water quantities delivered to the respective project purposes -- for those features of the facility which are jointly used by project purposes.

The specific costs of those features of a project facility which are used exclusively by one purpose must be added to the allocated joint costs to determine the total costs assigned to each purpose of the facility.

Facilities to be Covered by Cost Allocations

The Department's "Standard Provisions for Water Supply Contract" classify all State Water Project facilities (except the San Joaquin Drainage Facilities) as either project conservation facilities, which conserve and develop the project water yield, or project transportation facilities, which convey the developed water yield to project service areas. While all features of most project facilities are included in one of the two classifications, certain features of the California Aqueduct and Grizzly Valley Dam and Lake Davis are divided between project conservation facilities and project transportation facilities. The reimbursable costs of the respective types of facilities are returned to the State through contractor payments of two separate charges: the Delta Water Charge, for project conservation facilities, and the Transportation Charge, for project transportation facilities. Thus, the Department develops separate allocation percentages for each type of facility.

TABLE 4

SUMMARY OF COST ALLOCATION PERCENTAGES

(in percent of joint costs of the respective facilities)

| Facilities of the State Water Project | Reimbursable purposes | | | | Nonreimbursable purposes | | | Total |
|--|-----------------------|---------------------|--------------------------------|----------|--------------------------|---|----------|-------|
| | Water supply | Power generation | Ag. waste water disposal | Subtotal | Flood control | Recreation and fish and wildlife enhancement | Subtotal | |
| <u>For Joint Capital Costs</u> | | | | | | | | |
| <u>Project Conservation Facilities</u> | | | | | | | | |
| Frenchman Dam and Lake ^{a/} | 50.0 | 0 | 0 | 50.0 | 0 | 50.0 | 50.0 | 100.0 |
| Antelope Dam and Lake ^{a/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Grizzly Valley Dam and Lake Davis ^{a/} | 5.1 | 0 | 0 | 5.1 | 0 | 94.9 | 94.9 | 100.0 |
| Abbey Bridge Dam and reservoir ^{b/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Dixie Refuge Dam and reservoir ^{c/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Oroville Dam and reservoir ^{c/} | 54.0 | 24.8 | 0 | 78.8 | 21.2 | 0 | 21.2 | 100.0 |
| California Aqueduct ^{c/} | 91.3 | 0 | 0 | 91.3 | 0 | 8.7 | 8.7 | 100.0 |
| Delta Facilities ^{c/} | 67.1 | 0 | 0 | 67.1 | 0 | 32.9 | 32.9 | 100.0 |
| Upper Eel River Development ^{c/} | 100.0 | 0 | 0 | 100.0 | 0 | 0 | 0 | 100.0 |
| <u>Project Transportation Facilities</u> | | | | | | | | |
| California Aqueduct, excluding Coastal Branch ^{c/} | 97.0 | 0 | 0 | 97.0 | 0 | 3.0 | 3.0 | 100.0 |
| South Bay Aqueduct: Del Valle Dam and reservoir ^{b/} | 27.5 | 0 | 0 | 27.5 | 21.5 | 51.0 | 72.5 | 100.0 |
| North Bay Aqueduct ^{c/} | 100.0 | 0 | 0 | 100.0 | 0 | 0 | 0 | 100.0 |
| <u>San Joaquin Drainage Facilities</u> | | | | | | | | |
| San Joaquin Master Drain ^{c/} | 0 | 0 | 100.0 | 100.0 | 0 | 0 | 0 | 100.0 |
| <u>For Joint Minimum Operations, Maintenance, Power, and Replacement Costs</u> | | | | | | | | |
| <u>Project Conservation Facilities</u> | | | | | | | | |
| Frenchman Dam and Lake ^{a/} | 50.0 | 0 | 0 | 50.0 | 0 | 50.0 | 50.0 | 100.0 |
| Antelope Dam and Lake ^{a/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Grizzly Valley Dam and Lake Davis ^{a/} | 8.8 | 0 | 0 | 8.8 | 0 | 91.2 | 91.2 | 100.0 |
| Abbey Bridge Dam and reservoir ^{b/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Dixie Refuge Dam and reservoir ^{c/} | 0 | 0 | 0 | 0 | 0 | 100.0 | 100.0 | 100.0 |
| Oroville Dam and reservoir ^{c/} | 42.5 | 41.0 | 0 | 83.5 | 16.5 | 0 | 16.5 | 100.0 |
| California Aqueduct ^{c/} | 94.4 | 0 | 0 | 94.4 | 0 | 5.6 | 5.6 | 100.0 |
| Delta Facilities ^{c/} | 17.9 | 0 | 0 | 17.9 | 0 | 82.1 | 82.1 | 100.0 |
| Upper Eel River Development ^{c/} | 100.0 | 0 | 0 | 100.0 | 0 | 0 | 0 | 100.0 |
| <u>Project Transportation Facilities</u> | | | | | | | | |
| California Aqueduct, excluding Coastal Branch ^{c/} | 92.9 | 0 | 0 | 92.9 | 0 | 7.1 | 7.1 | 100.0 |
| South Bay Aqueduct: Del Valle Dam and reservoir ^{b/} | 34.9 | 0 | 0 | 34.9 | 25.6 | 39.5 | 65.1 | 100.0 |
| North Bay Aqueduct ^{c/} | 100.0 | 0 | 0 | 100.0 | 0 | 0 | 0 | 100.0 |
| <u>San Joaquin Drainage Facilities</u> | | | | | | | | |
| San Joaquin Master Drain ^{c/} | 0 | 0 | 100.0 | 100.0 | 0 | 0 | 0 | 100.0 |

a/ Final percentages for which approval is requested at this time.

b/ Tentative percentages for which approval is not requested at this time.

c/ Illustrative percentages only, assumed for current project financial and repayment analyses.

Note: Percentages shown are those applicable to the costs of the facility as accounted for by the State, or, in the case of federal-state joint-use facilities (San Luis and Delta Facilities), only the State's share of the total cost.

Finality of Allocation Percentages

The allocation percentages represent three degrees of finality, as indicated by the following notes to Table 4:

a. Percentages the Department considers to be final, for which legislative approval is requested.

b. Percentages the Department considers to be tentative, but for which legislative approval is not requested at this time.

c. Percentages the Department considers to be illustrative and subject to change, but which are assumed for current financial analyses.

Allocation percentages may be subsequently revised, based on a formal demonstration that such revision is warranted by reason of substantial changes in the factors which supported the preceding determination. Demonstration of substantial changes in the supporting factors could include the finding that: (1) funds are not forthcoming for financing the construction costs of all recreation features originally considered; (2) projections of benefits have significantly changed; or, (3) estimated costs have significantly changed.

Summary of Projected Capital Costs, by Purpose

Table 5 presents a distribution of the estimated capital costs of the State Water Project facilities among project purposes. This tabulation includes the allocation of the estimated joint capital costs of features jointly used by project purposes, as reported in Bulletin 132-67, by the percentages summarized in the upper portion of Table 4. The tabulation also includes an assignment of the estimated specific capital costs of features used exclusively by particular project purposes.

TABLE 5
ESTIMATED CAPITAL COSTS
OF STATE WATER PROJECT PURPOSES
(in thousands of dollars)

| FACILITIES AND FEATURES OF THE STATE WATER PROJECT | ESTIMATED CAPITAL COSTS | | | ESTIMATED CAPITAL COSTS ALLOCATED AMONG PROJECT PURPOSES | | | | | |
|--|---|---|-----------|--|---------------------|---------------------|------------------|---|---------------------------|
| | As Reported By the Department ^{a/} | As Accounted and Budgeted by Others ^{b/} | Total | Water Supply | Power Generation | Drainage Benefit | Flood Control | Recreation and Fish and Wildlife Enhancement ^{c/} | Unspecified ^{d/} |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| PROJECT CONSERVATION FACILITIES | | | | | | | | | |
| Frenchman Dam and Lake: | | | | | | | | | |
| Joint costs - dam and reservoir | 3,256 | 0 | 3,256 | 1,630 | 0 | 0 | 0 | 1,626 | 0 |
| Specific costs - recreation developments | 0 | 2,425 | 2,425 | 0 | 0 | 0 | 0 | 2,425 | 0 |
| Total | 3,256 | 2,425 | 5,681 | 1,630 | 0 | 0 | 0 | 4,051 | 0 |
| Antelope Dam and Lake: | | | | | | | | | |
| Joint costs - dam and reservoir | 4,580 | 0 | 4,580 | 0 | 0 | 0 | 0 | 4,580 | 0 |
| Specific costs - recreation developments | 0 | 1,553 | 1,553 | 0 | 0 | 0 | 0 | 1,553 | 0 |
| Total | 4,580 | 1,553 | 6,133 | 0 | 0 | 0 | 0 | 6,133 | 0 |
| Grizzly Valley Dam and Lake Davis: | | | | | | | | | |
| Joint costs - dam and reservoir | 4,403 | 0 | 4,403 | 224 | 0 | 0 | 0 | 4,179 | 0 |
| Specific costs - recreation developments and Grizzly Valley Pipeline | 14 | 4,076 | 4,090 | 14 | 0 | 0 | 0 | 4,076 | 0 |
| Total | 4,417 | 4,076 | 8,493 | 238 | 0 | 0 | 0 | 8,255 | 0 |
| Abbey Bridge Dam and reservoir: | | | | | | | | | |
| Joint costs - dam and reservoir | 4,815 | 0 | 4,815 | 0 | 0 | 0 | 0 | 4,815 | 0 |
| Specific costs - recreation developments | 0 | 4,729 | 4,729 | 0 | 0 | 0 | 0 | 4,729 | 0 |
| Total | 4,815 | 4,729 | 9,544 | 0 | 0 | 0 | 0 | 9,544 | 0 |
| Dixie Refuge Dam and reservoir: | | | | | | | | | |
| Joint costs - dam and reservoir | 4,333 | 0 | 4,333 | 0 | 0 | 0 | 0 | 4,333 | 0 |
| Specific costs - recreation developments | 0 | 2,836 | 2,836 | 0 | 0 | 0 | 0 | 2,836 | 0 |
| Total | 4,333 | 2,836 | 7,169 | 0 | 0 | 0 | 0 | 7,169 | 0 |
| Oroville Dam and reservoir: | | | | | | | | | |
| Joint costs - dam, fish hatchery, and reservoir | 303,202 | 0 | 303,202 | 163,776 | 75,136 | 0 | 64,290 | 0 | 0 |
| Specific costs - Oroville power features and recreation developments | 172,555 | 51,805 | 223,360 | 177 | 171,270 | 0 | 0 | 51,913 | 0 |
| Total | 474,757 | 51,805 | 526,562 | 163,953 | 246,406 | 0 | 64,290 | 51,913 | 0 |
| California Aqueduct: | | | | | | | | | |
| Joint costs - San Luis Dam and reservoir, and aqueduct | 129,603 | 0 | 129,603 | 118,328 | 0 | 0 | 0 | 11,275 | 0 |
| Specific costs - recreation developments | 237 | 12,833 | 13,070 | 162 | 0 | 0 | 0 | 12,908 | 0 |
| Total | 129,840 | 12,833 | 142,673 | 118,490 | 0 | 0 | 0 | 24,183 | 0 |
| Delta Facilities: | | | | | | | | | |
| Joint costs - Peripheral Canal | 54,958 | 0 | 54,958 | 36,877 | 0 | 0 | 0 | 18,081 | 0 |
| Specific costs - recreation developments | 422 | 0 | 422 | 422 | 0 | 0 | 0 | 0 | 0 |
| Total | 55,380 | 0 | 55,380 | 37,299 | 0 | 0 | 0 | 18,081 | 0 |
| Upper Bel River Development: ^{d/} | | | | | | | | | |
| Joint costs - dam, reservoirs, and tunnels | 348,356 | 0 | 348,356 | 348,356 | 0 | 0 | 0 | 0 | 0 |
| Specific costs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 348,356 | 0 | 348,356 | 348,356 | 0 | 0 | 0 | 0 | 0 |
| Subtotal, project conservation facilities: | | | | | | | | | |
| Joint costs | 857,506 | 0 | 857,506 | 669,191 | 75,136 | 0 | 64,290 | 48,889 | 0 |
| Specific costs | 172,228 | 80,257 | 252,485 | 775 | 171,270 | 0 | 0 | 80,440 | 0 |
| Total | 1,029,734 | 80,257 | 1,109,991 | 669,966 | 246,406 | 0 | 64,290 | 129,329 | 0 |
| PROJECT TRANSPORTATION FACILITIES | | | | | | | | | |
| California Aqueduct: | | | | | | | | | |
| Joint costs - aqueduct and terminal reservoirs | 1,451,338 | 0 | 1,451,338 | 1,407,803 | 0 | 0 | 0 | 43,535 | 0 |
| Specific costs - Coastal Branch and recreation developments | 77,006 | 68,305 | 145,311 | 76,585 | 0 | 0 | 0 | 68,726 | 0 |
| Total | 1,528,344 | 68,305 | 1,596,649 | 1,484,388 | 0 | 0 | 0 | 112,261 | 0 |
| South Bay Aqueduct: | | | | | | | | | |
| Joint costs - Del Valle Dam and reservoir | 29,196 | 0 | 29,196 | 8,030 | 0 | 0 | 6,277 | 14,889 | 0 |
| Specific costs - aqueduct and recreation developments | 37,497 | 5,719 | 43,216 | 37,497 | 0 | 0 | 0 | 5,719 | 0 |
| Total | 66,693 | 5,719 | 72,412 | 45,527 | 0 | 0 | 6,277 | 20,608 | 0 |
| North Bay Aqueduct: | | | | | | | | | |
| Joint costs - aqueduct | 15,243 | 0 | 15,243 | 15,243 | 0 | 0 | 0 | 0 | 0 |
| Specific costs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 15,243 | 0 | 15,243 | 15,243 | 0 | 0 | 0 | 0 | 0 |
| Subtotal, project transportation facilities: | | | | | | | | | |
| Joint costs | 1,495,777 | 0 | 1,495,777 | 1,431,076 | 0 | 0 | 6,277 | 58,424 | 0 |
| Specific costs | 114,503 | 74,024 | 188,527 | 114,082 | 0 | 0 | 0 | 74,445 | 0 |
| Total | 1,610,280 | 74,024 | 1,684,304 | 1,545,158 | 0 | 0 | 6,277 | 132,869 | 0 |
| SAN JOAQUIN DRAINAGE FACILITIES | | | | | | | | | |
| Joint costs - drainage canal and regulating reservoir | 42,229 | 0 | 42,229 | 0 | 0 | 42,229 | 0 | 0 | 0 |
| Specific costs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 42,229 | 0 | 42,229 | 0 | 0 | 42,229 | 0 | 0 | 0 |
| MISCELLANEOUS COSTS (herein considered to be joint costs) | | | | | | | | | |
| Reservation for Davis-Grunsky Program | 131,423 | 0 | 131,423 | 0 | 0 | 0 | 0 | 0 | 131,423 |
| Costs to be reallocated to project facilities | 442 | 0 | 442 | 0 | 0 | 0 | 0 | 0 | 442 |
| Total | 131,865 | 0 | 131,865 | 0 | 0 | 0 | 0 | 0 | 131,865 |
| GRAND TOTAL, STATE WATER PROJECT: | | | | | | | | | |
| Joint costs | 2,527,377 | 0 | 2,527,377 | 2,100,267 | 75,136 | 42,229 | 70,567 | 107,313 | 131,865 |
| Specific costs | 286,731 | 154,281 | 441,012 | 114,857 | 171,270 | 0 | 0 | 154,885 | 0 |
| TOTAL | 2,814,108 | 154,281 | 2,968,389 | 2,215,124 | 246,406 | 42,229 | 70,567 | 262,198 | 131,865 |

a/ Includes all costs initially financed by project funds. These figures are summarized from Bulletin 132-67, Table 15.
b/ Includes currently estimated costs of initial and continuing recreation and fish and wildlife enhancement developments financed by General Fund appropriations and/or other special state funds and does not include project-associated costs financed by the Federal Government or by local public and private agencies.

c/ Includes the costs of the Davis-Grunsky Program. Roughly 90 percent of the total disbursements for the Program to date have been grants to the purposes of recreation and fish and wildlife enhancement.
d/ The Development is currently under formulation. Allocations will undoubtedly be made to flood control, recreation, fish and wildlife enhancement, and water supply.

The specific costs of recreation and fish and wildlife enhancement developments associated with State Water Project facilities, other than land acquisition costs, are not reported in the Bulletin 132 series. These amounts (shown in Column 2 of Table 5) are not financed by project funds, are accounted and budgeted by agencies other than the Department, and are excluded from the financial analyses presented in the Bulletin 132 series.

Projected Annual Expenditure of Project Funds
for Recreation and Fish and Wildlife Enhancement,
and the Reimbursement Thereof

The estimated capital expenditures for all project facilities which eventually would be reported to the Legislature by the Department, pursuant to Water Code Section 11912, are estimated to total about \$123.4 million. This figure represents the total of \$107.3 million for the estimated joint capital costs, shown allocated to recreation and fish and wildlife enhancement in Column 8 of Table 5, and \$16.1 million for the estimated specific costs of recreation land acquisitions.

Columns 2 and 3 of Table 6 present schedules of the estimated annual expenditures corresponding with the above total amounts. However, Table 6 does not indicate the manner in which such expenditures would be reported to the Legislature. As pointed out in Chapter II, the annual expenditures for each respective facility, together with interest charges on the portions financed by the California Water Resources Development Bond Fund, would be reported following completion of construction.

TABLE 6
PROJECTED ANNUAL EXPENDITURE OF PROJECT FUNDS
FOR RECREATION AND FISH AND WILDLIFE ENHANCEMENT
AND THE REIMBURSEMENT THEREOF
(in thousands of dollars)

| CALENDAR YEAR | OUTSTANDING BALANCE AT BEGINNING OF YEAR ^{1/} | CAPITAL COSTS OF THE STATE WATER PROJECT FOR RECREATION AND FISH AND WILDLIFE ENHANCEMENT | | | OUTSTANDING BALANCE AT END OF YEAR, PRIOR TO INTEREST ACCRUALS ^{2/} | INTEREST ACCRUAL ON AVERAGE BALANCE ^{3/} |
|------------------|---|--|------------------------|-----------------------------|---|--|
| | | EXPENDITURE | | REIMBURSEMENT ^{4/} | | |
| | | ALLOCATED JOINT COSTS | SPECIFIC LAND COSTS | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| 1952 | 0 | 4 | 0 | 0 | 4 | 0 |
| 53 | 4 | 14 | 0 | 0 | 18 | 0 |
| 54 | 18 | 17 | 0 | 0 | 35 | 1 |
| 55 | 36 | 8 | 0 | 0 | 44 | 1 |
| 56 | 45 | 29 | 0 | 0 | 74 | 2 |
| 57 | 76 | 84 | 0 | 0 | 160 | 4 |
| 58 | 164 | 206 | 0 | 0 | 370 | 8 |
| 59 | 378 | 535 | 42 | 0 | 955 | 20 |
| 1960 | 975 | 997 | 0 | 0 | 1,972 | 45 |
| 61 | 2,017 | 1,118 | 28 | 0 | 3,163 | 73 |
| 62 | 3,242 | 1,983 | 56 | 0 | 5,281 | 130 |
| 63 | 5,411 | 6,518 | 114 | 0 | 12,043 | 266 |
| 64 | 12,309 | 4,776 | 105 | 0 | 17,190 | 450 |
| 65 | 17,640 | 6,603 | 740 | 0 | 24,983 | 651 |
| 66 | 25,634 | 11,940 | 6,905 | 0 | 44,479 | 1,070 |
| 67 | 45,549 | 15,547 | 2,143 | 5,000 | 58,239 | 1,584 |
| 68 | 59,823 | 14,620 | 2,386 | 5,000 | 71,829 | 2,009 |
| 69 | 73,838 | 13,951 | 734 | 5,000 | 83,523 | 2,402 |
| 1970 | 85,925 | 6,929 | 2,880 | 5,000 | 90,734 | 2,606 |
| 71 | 93,430 | 6,803 | 0 | 5,000 | 95,233 | 2,579 |
| 72 | 98,112 | 5,142 | 0 | 5,000 | 98,254 | 2,997 |
| 73 | 101,251 | 4,291 | 0 | 5,000 | 100,542 | 3,080 |
| 74 | 103,622 | 4,264 | 0 | 5,000 | 102,886 | 3,152 |
| 75 | 106,038 | 66 | 0 | 5,000 | 101,104 | 3,162 |
| 76 | 104,266 | 123 | 0 | 5,000 | 99,389 | 3,108 |
| 77 | 102,497 | 0 | 0 | 5,000 | 97,497 | 3,052 |
| 78 | 100,549 | 0 | 0 | 5,000 | 95,549 | 2,993 |
| 79 | 98,542 | 0 | 0 | 5,000 | 93,542 | 2,932 |
| 1980 | 96,474 | 0 | 0 | 5,000 | 91,474 | 2,869 |
| 81 | 94,343 | 0 | 0 | 5,000 | 89,343 | 2,804 |
| 82 | 92,147 | 71 | 0 | 5,000 | 87,218 | 2,738 |
| 83 | 89,956 | 146 | 0 | 5,000 | 85,102 | 2,672 |
| 84 | 87,774 | 299 | 0 | 5,000 | 83,073 | 2,608 |
| 85 | 85,681 | 229 | 0 | 5,000 | 80,910 | 2,543 |
| 86 | 83,453 | 0 | 0 | 5,000 | 78,453 | 2,471 |
| 87 | 80,924 | 0 | 0 | 5,000 | 75,924 | 2,394 |
| 88 | 78,318 | 0 | 0 | 5,000 | 73,318 | 2,314 |
| 89 | 75,632 | 0 | 0 | 5,000 | 70,632 | 2,232 |
| 1990 | 72,864 | 0 | 0 | 5,000 | 67,864 | 2,148 |
| 91 | 70,012 | 0 | 0 | 5,000 | 65,012 | 2,061 |
| 92 | 67,073 | 0 | 0 | 5,000 | 62,073 | 1,971 |
| 93 | 64,044 | 0 | 0 | 5,000 | 59,044 | 1,879 |
| 94 | 60,923 | 0 | 0 | 5,000 | 55,923 | 1,783 |
| 95 | 57,706 | 0 | 0 | 5,000 | 52,706 | 1,685 |
| 96 | 54,391 | 0 | 0 | 5,000 | 49,391 | 1,584 |
| 97 | 50,975 | 0 | 0 | 5,000 | 45,975 | 1,480 |
| 98 | 47,455 | 0 | 0 | 5,000 | 42,455 | 1,372 |
| 99 | 43,827 | 0 | 0 | 5,000 | 38,827 | 1,262 |
| 2000 | 40,089 | 0 | 0 | 5,000 | 35,089 | 1,147 |
| 01 | 36,236 | 0 | 0 | 5,000 | 31,236 | 1,030 |
| 02 | 32,266 | 0 | 0 | 5,000 | 27,266 | 909 |
| 03 | 28,175 | 0 | 0 | 5,000 | 23,175 | 784 |
| 04 | 23,959 | 0 | 0 | 5,000 | 18,959 | 655 |
| 05 | 19,614 | 0 | 0 | 5,000 | 14,614 | 522 |
| 06 | 15,136 | 0 | 0 | 5,000 | 10,136 | 386 |
| 07 | 10,522 | 0 | 0 | 5,000 | 5,522 | 245 |
| 08 | 5,767 | 0 | 0 | 5,000 | 767 | 100 |
| 2009 | 867 | 0 | 0 | 880 | 0 | 13 |
| TOTALS | - | 107,313 | 16,133 | 210,880 | - | 87,434 |

a/ The total of Columns 5 and 6 for the preceding year.

b/ From assumed continuing reservations of tideland oil and gas revenues in the amount of \$5,000,000 annually, pursuant to California Statutes of 1966 (First Extraordinary Session), Chapter 27.

c/ The total of Columns 1, 2 and 3, less Column 4.

d/ Assumes 82.5 percent of all expenditures shown in Columns 2 and 3 to be financed by the California Water Resources Development Bond Fund at a project interest rate of 3.7 percent per annum -- with the remaining expenditures financed, interest-free, by the General Fund and the California Water Fund.

Table 6 also presents the manner in which all estimated costs to be reported eventually would be covered by moneys made available under California Statutes of 1966 (First Extraordinary Session), Chapter 27. For simplicity, it is assumed that 82.5 percent of all expenditures shown in Columns 2 and 3 would be financed from the Bond Fund at a project interest rate of 3.7 percent per annum. (The financial analysis shown in Bulletin 132-67 indicates that 17.5 percent of the total capital costs of the initial facilities of the State Water Project would be financed by the California Water Fund and the General Fund. Interest charges on expenditures financed by these funds are not reported to the Legislature.) Under this assumption, and with the present \$5 million annual limitation on tideland oil and gas revenues reserved for such costs, the amortization of those recreation and fish and wildlife enhancement costs financed by project funds would extend to 2009. Total interest charges would amount to about \$87.4 million by that time.

CHAPTER IV. SUMMARY OF PRIOR DERIVATIONS OF ALLOCATION PERCENTAGES

This chapter summarizes the Department's derivation of those allocation percentages for State Water Project facilities either completed or scheduled to be under construction by the end of fiscal year 1968-69.

The percentages shown herein for Frenchman and Antelope Dams and Lakes and for Grizzly Valley Dam and Lake Davis are considered to be final at this time. Additional information in support of the derivation of allocation percentages for Frenchman Dam and Lake and for Grizzly Valley Dam and Lake Davis is contained in Appendices A and B, respectively. Substantiation for the Antelope Dam and Lake percentages is not necessary since all associated costs are allocated to recreation and fish and wildlife enhancement.

Frenchman Dam and Lake

The construction of Frenchman Dam and Lake was initiated in August 1959 and was completed in October 1961. The description of Frenchman Dam and Lake was modified by Project Order No. 14 of the Director of Water Resources, dated July 22, 1966, to correspond with the constructed facility. The Order stated that "Frenchman Lake regulates the water of Little Last Chance Creek for downstream irrigation use and provides a facility for recreation and fish and wildlife enhancement."

The original allocation percentages for Frenchman Dam and Lake (then known as the "Frenchman Project") were developed

in the Department's Bulletin 59, "Investigation of Upper Feather River Basin Development", dated February 1957. However, estimated costs of land acquisition and relocation were excluded on the basis of criteria assumed at the time.

In 1963, the Department revised the original allocation percentages to account for: (1) a significant increase in estimated recreation and fish and wildlife enhancement benefits; (2) a decrease in estimated water supply benefits; and, (3) the estimated costs of land acquisition and relocations omitted in the original allocation.

The modified derivation, by the Separable Costs-Remaining Benefits method, reflects the costs of the facility on the basis of original estimates, and is presented in Table 7. The details of the computation were reported by the Department to the Assembly Interim Committee on Water at a hearing in Santa Monica on July 22, 1964.

Antelope Dam and Lake

Project Order No. 15 of the Director of Water Resources, dated July 22, 1966, states that Antelope Lake "...will be used for recreation and fish and wildlife enhancement purposes." Therefore, the costs of Antelope Dam and Lake, and of all associated features, are allocated totally (100 percent) to the project purposes of recreation and fish and wildlife enhancement. This allocation is the same as reported for the facility in Bulletin 59, and does not require application of the Separable Costs-Remaining Benefits method since recreation and fish and wildlife enhancement are herein treated as one purpose.

TABLE 7

DERIVATION OF ALLOCATION PERCENTAGES
FOR FRENCHMAN DAM AND LAKE

(in dollars unless otherwise noted)

| Step No. : | Item of benefit or cost ^{a/} : | Water supply : | Recreation and fish and wildlife enhancement : | Total : |
|------------|--|----------------|--|---------|
| 1. | Benefits | 46,500 | 272,300 | 318,800 |
| 2. | Alternative Costs | 46,300 | 71,600 | 117,900 |
| 3. | Justifiable Costs | 46,300 | 71,600 | 117,900 |
| 4. | Separable Costs: | | | |
| | Total | 17,400 | 42,700 | 60,100 |
| | Capital | 14,300 | 27,600 | 41,900 |
| | O.M.P.&R. | 3,100 | 15,100 | 18,200 |
| 5. | Remaining Justifiable Costs | 28,900 | 28,900 | 57,800 |
| 6. | Percent Distribution of Remaining Justifiable Costs | 50.0% | 50.0% | 100.0% |
| 7. | Remaining Joint Costs: | | | |
| | Total | 14,450 | 14,450 | 28,900 |
| | Capital | 12,000 | 12,000 | 24,000 |
| | O.M.P.&R. | 2,450 | 2,450 | 4,900 |
| 8. | Total Allocated Project Costs: | | | |
| | Total | 31,850 | 57,150 | 89,000 |
| | Capital | 26,300 | 39,600 | 65,900 |
| | O.M.P.&R. | 5,550 | 17,550 | 23,100 |
| 9. | Percent Distribution of Total Project Costs: | | | |
| | Total | 35.8% | 64.2% | 100.0% |
| | Capital | 39.9% | 60.1% | 100.0% |
| | O.M.P.&R. | 24.0% | 76.0% | 100.0% |
| 10. | Specific Costs: | | | |
| | Total | 0 | 25,300 | 25,300 |
| | Capital | 0 | 13,300 | 13,300 |
| | O.M.P.&R. | 0 | 12,000 | 12,000 |
| 11. | Total Allocated Costs of Features Jointly Used: | | | |
| | Total | 31,850 | 31,850 | 63,700 |
| | Capital | 26,300 | 26,300 | 52,600 |
| | O.M.P.&R. | 5,550 | 5,550 | 11,100 |
| 12. | Percent Distribution of Costs of Features Jointly Used: | | | |
| | Total | 50.0% | 50.0% | 100.0% |
| | Capital | 50.0% | 50.0% | 100.0% |
| | O.M.P.&R. (Minimum Category) | 50.0% | 50.0% | 100.0% |

^{a/} Annual benefits and costs through the year 2011 converted to equivalent equal annual amounts for the 50-year period 1962-2011, at 4 percent and 3 percent interest, respectively.

Grizzly Valley Dam and Lake Davis

The Department's derivation of allocation percentages for Grizzly Valley Dam and Lake Davis, shown in Table 8, represents a complete revision of the alternative allocations described for the facility in Bulletin 59. The revision followed the modification of the facility's description by Project Order No. 6 of the Director of Water Resources, dated January 17, 1964. The revised allocation is presented in the Department's Bulletin 128, "Lake Davis", dated May 1965, and was discussed before the Assembly Interim Committee on Water at its hearing in Los Angeles, on January 14, 1966. (See Appendix B for further details.)

The cost allocation is unique among those facilities of the State Water Project located in and above the Delta, since Grizzly Valley Dam and Lake Davis are part of the project conservation facilities, and the associated Grizzly Valley Pipeline, is part of the project transportation facilities.

Abbey Bridge Dam and Reservoir

Project Order No. 16 of the Director of Water Resources, dated July 22, 1966, states that Abbey Bridge reservoir "...will be used entirely for recreation and fish and wildlife enhancement purposes." Therefore, the costs of Abbey Bridge Dam and reservoir, and of all associated features, are allocated totally (100 percent) to the project purposes of recreation and fish and wildlife enhancement. This allocation is the same as reported for the facility in Bulletin 59, and does not require application of the Separable Costs-Remaining Benefits method since recreation and fish and wildlife enhancement are herein treated as one purpose.

TABLE 8

DERIVATION OF ALLOCATION PERCENTAGES
FOR GRIZZLY VALLEY DAM AND LAKE DAVIS

(in dollars unless otherwise noted)

| Step No. | Item of benefit or cost ^{a/} | Water supply | Recreation and fish and wildlife enhancement | Total |
|-------------|--|-----------------|---|---------|
| 1 | Benefits | 11,700 | 388,900 | 400,600 |
| 2 | Alternative Costs | 60,800 | 315,700 | 376,500 |
| 3 | Justifiable Costs | 11,700 | 315,700 | 327,400 |
| 4 | Separable Costs: | | | |
| | Total | 0 | 254,900 | 254,900 |
| | Capital | 0 | 195,300 | 195,300 |
| | O.M.P.&R. | 0 | 59,600 | 59,600 |
| 5 | Remaining Justifiable Costs | 11,700 | 60,800 | 72,500 |
| 6 | Percent Distribution of Remaining Justifiable Costs | 16.1% | 83.9% | 100.0% |
| 7 | Remaining Joint Costs: | | | |
| | Total | 9,800 | 51,000 | 60,800 |
| | Capital | 8,200 | 42,600 | 50,800 |
| | O.M.P.&R. | 1,600 | 8,400 | 10,000 |
| 8a | Total Allocated Costs, Conservation Facilities: | | | |
| | Total | 9,800 | 305,900 | 315,700 |
| | Capital | 8,200 | 237,900 | 246,100 |
| | O.M.P.&R. | 1,600 | 68,000 | 69,600 |
| 8b | Total Allocated Costs, Project Transportation Facilities: | | | |
| | Total | 25,100 | 0 | 25,100 |
| | Capital | 21,600 | 0 | 21,600 |
| | O.M.P.&R. | 3,500 | 0 | 3,500 |
| 8c | Total Allocated Project Costs: | | | |
| | Total | 34,900 | 305,900 | 340,800 |
| | Capital | 29,800 | 237,900 | 267,700 |
| | O.M.P.&R. | 5,100 | 68,000 | 73,100 |
| 9 | Percent Distribution of Total Project Costs: | | | |
| | Total | 10.2% | 89.8% | 100.0% |
| | Capital | 11.1% | 88.9% | 100.0% |
| | O.M.P.&R. | 7.0% | 93.0% | 100.0% |
| 10 | Specific Costs: | | | |
| | Total | 25,100 | 136,400 | 161,500 |
| | Capital | 21,600 | 84,900 | 106,500 |
| | O.M.P.&R. | 3,500 | 51,500 | 55,000 |
| 11 | Total Allocated Costs of Features Jointly Used: | | | |
| | Total | 9,800 | 169,500 | 179,300 |
| | Capital | 8,200 | 153,000 | 161,200 |
| | O.M.P.&R. | 1,600 | 16,500 | 18,100 |
| 12 | Percent Distribution of Costs of Features Jointly Used: | | | |
| | Total | 5.5% | 94.5% | 100.0% |
| | Capital | 5.1% | 94.9% | 100.0% |
| | O.M.P.&R. (Minimum Category) | 8.8% | 91.2% | 100.0% |

^{a/} Annual benefits and costs through the year 2014 converted to equal annual equivalent amounts for the 50-year period 1965-2014 at 4 percent interest.

Oroville Dam and Reservoir

The Department's derivation of allocation percentages for Oroville Dam and reservoir is shown in Table 9. In accordance with Article 22(e) of the "Standard Provisions for Water Supply Contract", the derivation corresponds with the allocation basic to the contract between the United States of America and the State of California executed on March 8, 1962, which provides for a federal flood control contribution.

Table 9 differs in format from the federal allocation in that the estimated specific costs of recreation and fish and wildlife enhancement have been added to the total project costs, subsequent to the Separable Costs-Remaining Benefits allocation.

The allocation percentages developed in Table 9 are applicable to the total costs of features jointly used by project purposes -- including some \$15,000 in federal expenditures, expressed as an equal annual equivalent cost. These percentages are adjusted in the following tabulation to be applicable only to costs to be incurred by the State:

| Step : | | Flood : | Power : | Water : | |
|--------|---|----------|-------------|----------|--------|
| No. : | Item of benefit or cost | control: | generation: | supply : | Total |
| 11. | Total Allocated Costs of Features Jointly Used: | | | | |
| | Total | 3,191 | 3,865 | 8,142 | 15,198 |
| | Capital | 3,090 | 3,613 | 7,881 | 14,584 |
| | O.M.P.&R. | 101 | 252 | 261 | 614 |
| 12. | Percent Distribution of Costs of Features Jointly Used: | | | | |
| | Total | 21.0% | 25.5% | 43.5% | 100.0% |
| | Capital | 21.2% | 24.8% | 54.0% | 100.0% |
| | O.M.P.&R. (Minimum Category) | 16.5%, | 41.0% | 42.5% | 100.0% |

TABLE 9
DERIVATION OF ALLOCATION PERCENTAGES
FOR OROVILLE DAM AND RESERVOIR
(in thousands of dollars unless otherwise noted)

| Step No. | Item of benefit or cost ^{a/} | Flood control | Power generation | Water supply | Recreation and fish and wildlife enhancement | Total |
|----------|---|---------------|------------------|--------------|--|--------|
| 1. | Benefits | 3,640 | 19,266 | 9,284 | - | 32,190 |
| 2. | Alternative Costs | 8,966 | 19,266 | 10,593 | - | 38,825 |
| 3. | Justifiable Costs | 3,640 | 19,266 | 9,284 | - | 32,190 |
| 4. | Separable Costs: | | | | | |
| | Total | 143 | 18,955 | 94 | - | 19,192 |
| | Capital | 137 | 15,041 | 83 | - | 15,261 |
| | O.M.P.&R. | 6 | 3,914 | 11 | - | 3,931 |
| 5. | Remaining Justifiable Costs | 3,497 | 311 | 9,190 | - | 12,998 |
| 6. | Percent Distribution of Remaining Justifiable Costs | 26.904% | 2.393% | 70.703% | | 100.0% |
| 7a. | Remaining Joint Costs: | | | | | |
| | Total | 3,063 | 272 | 8,048 | - | 11,383 |
| | Capital | 2,968 | 263 | 7,798 | - | 11,029 |
| | O.M.P.&R. | 95 | 9 | 250 | - | 354 |
| 7b. | Special Considerations, this Allocation: ^{b/} | | | | | |
| | Total | 0 | -4,098 | 0 | 3,566 | -532 |
| | Capital | 0 | -4,098 | 0 | 1,860 | -2,238 |
| | O.M.P.&R. | 0 | 0 | 0 | 1,706 | 1,706 |
| 8. | Total Allocated Project Costs: | | | | | |
| | Total | 3,206 | 15,129 | 8,142 | 3,566 | 30,043 |
| | Capital | 3,105 | 11,206 | 7,881 | 1,860 | 24,052 |
| | O.M.P.&R. | 101 | 3,923 | 261 | 1,706 | 5,991 |
| 9. | Percent Distribution of Total Project Costs: | | | | | |
| | Total | 10.7% | 50.4% | 27.0% | 11.9% | 100.0% |
| | Capital | 12.9% | 46.6% | 32.8% | 7.7% | 100.0% |
| | O.M.P.&R. | 1.7% | 65.4% | 4.4% | 25.5% | 100.0% |
| 10. | Specific Costs: | | | | | |
| | Total | 0 | 11,264 | 0 | 3,566 | 14,830 |
| | Capital | 0 | 7,593 | 0 | 1,860 | 9,453 |
| | O.M.P.&R. | 0 | 3,671 | 0 | 1,706 | 5,377 |
| 11. | Total Allocated Costs of Features Jointly Used: | | | | | |
| | Total | 3,206 | 3,865 | 8,142 | - | 15,213 |
| | Capital | 3,105 | 3,613 | 7,881 | - | 14,599 |
| | O.M.P.&R. | 101 | 252 | 261 | - | 614 |
| 12. | Percent Distribution of Costs of Features Jointly Used: | | | | | |
| | Total | 21.1% | 25.4% | 53.5% | - | 100.0% |
| | Capital | 21.3% | 24.7% | 54.0% | - | 100.0% |
| | O.M.P.&R. (Minimum Category) | 16.5% | 41.0% | 42.5% | - | 100.0% |

^{a/} Annual benefits and costs through the year 2018 converted to equal annual equivalents at 4 percent and 3½ percent, respectively, for the 50-year period 1969-2018.

^{b/} As distinguished from other allocations included in this report the special considerations included in Step 7b are combined with the separable and remaining joint costs to form the total project costs. This step includes the following items:

- (a) Cost allocation procedures at the time that the federal allocation was made included "taxes foregone" as a cost associated with the project purpose of power generation.
- (b) The project purposes of recreation and fish and wildlife enhancement were excluded in the federal allocation of joint project costs. The estimated specific costs for these purposes are herein added to demonstrate the current distribution of total project costs to project purposes.

South Bay Aqueduct: Del Valle Dam and Reservoir

Del Valle Dam and reservoir are currently the only features of the South Bay Aqueduct which will directly accommodate purposes other than water supply. While recreation and fish and wildlife enhancement features have been considered along the "main line" of the Aqueduct, none have been formulated. Del Valle reservoir will provide flood control, water supply, and recreation benefits.

The Department's tentative derivation of allocation percentages for Del Valle Dam and reservoir is shown in Table 10. The derivation differs from the allocation prepared by the Board of Engineers for Rivers and Harbors, contained in Senate Document No. 128, 87th Congress, 2nd Session. In the federal allocation, project costs were based upon projections made in 1959 and were significantly underestimated.

The Department's tentative derivation is based upon estimates made at the time the construction contract was awarded (March 1966). The federal allocation is, however, basic to the contract executed between the State and the United States in May 1966. Under the contract, federal contributions for Del Valle capital costs would be limited to a total of about \$4.08 million. This is about \$2 million less than the estimated costs allocable to flood control as indicated in the Department's tentative derivation.

TABLE 10

DERIVATION OF ALLOCATION PERCENTAGES
FOR DEL VALLE DAM AND RESERVOIR

(in \$1,000, unless otherwise indicated)

| Step: No.: | Item of benefit or cost ^{a/} | Flood control: | Water supply: | Recreation and fish and wildlife enhancement: | Total |
|---------------|--|-------------------|-------------------|--|--------|
| 1. | Benefits | 294 | 460 | 3,706 | 4,460 |
| 2. | Alternative Costs | 968 | 460 ^{b/} | 1,873 | 3,301 |
| 3. | Justifiable Costs | 294 | 460 | 1,873 | 2,627 |
| 4. | Separable Costs: | | | | |
| | Total | 259 | 43 | 1,027 | 1,329 |
| | Capital | 238 | 30 | 219 | 487 |
| | O.M.P.&R. | 21 | 13 | 808 | 842 |
| 5. | Remaining Justifiable Costs | 35 | 417 | 846 | 1,298 |
| 6. | Percent Distribution of Remaining Justifiable Costs | 2.7% | 32.1% | 65.2% | 100.0% |
| 7. | Remaining Joint Costs | | | | |
| | Total | 28 | 326 | 662 | 1,016 |
| | Capital | 27 | 309 | 628 | 964 |
| | O.M.P.&R. | 1 | 17 | 34 | 52 |
| 8. | Total Allocated Project Costs | | | | |
| | Total | 287 | 369 | 1,689 | 2,345 |
| | Capital | 265 | 339 | 847 | 1,451 |
| | O.M.P.&R. | 22 | 30 | 842 | 894 |
| 9. | Percent Distribution of Total Project Costs: | | | | |
| | Total | 12.2% | 15.7% | 72.1% | 100.0% |
| | Capital | 18.3% | 23.3% | 58.4% | 100.0% |
| | O.M.P.&R. | 2.5% | 3.3% | 94.2% | 100.0% |
| 10. | Specific Costs | | | | |
| | Total | 0 | 0 | 1,027 | 1,027 |
| | Capital | 0 | 0 | 219 | 219 |
| | O.M.P.&R. | 0 | 0 | 808 | 808 |
| 11. | Total Allocated Costs of Features Jointly Used: | | | | |
| | Total | 287 | 369 | 662 | 1,318 |
| | Capital | 265 | 339 | 628 | 1,232 |
| | O.M.P.&R. | 22 | 30 | 34 | 86 |
| 12. | Percent Distribution of Costs of Features Jointly Used: | | | | |
| | Total | 21.8% | 28.0% | 50.2% | 100.0% |
| | Capital | 21.5% | 27.5% | 51.0% | 100.0% |
| | O.M.P.&R. | 25.6% | 34.9% | 39.5% | 100.0% |

^{a/} Items of benefits and costs converted to equal annual equivalents for period 1969-2018, at 3.7 percent interest.

^{b/} Alternative single-purpose water supply project is assumed to be original enlargement of Reaches 1, 2 and 4 of the South Bay Aqueduct.

The Department is seeking to have the present contractual limitation increased in order to reflect the total costs properly allocable to flood control. The House Appropriations Committee has authorized the Corps of Engineers to use \$10,000 of Alameda Creek Flood Control Project moneys for a reevaluation study of the federal flood control contribution for Del Valle -- including whether or not a local contribution for the facility would be appropriate.

California Aqueduct

Recreation developments are still under formulation for the California Aqueduct. For this reason, the allocation percentages summarized herein for the project conservation facilities (San Luis reservoir and a portion of the Aqueduct from the Delta to Dos Amigos Pumping Plant) and the project transportation facilities (all other features) are the same as shown in Bulletin 153-67. These percentages are illustrative.

The overall allocation of the costs of the California Aqueduct between the project purposes of water supply and of recreation and fish and wildlife enhancement, as described in Bulletin 153-67, is accomplished by the following steps:

1. The costs of the features jointly used for project purposes from the Delta to Dos Amigos Pumping Plant, which encompass joint project conservation-transportation facilities, are allocated among project purposes by the Separable Costs-Remaining Benefits method.

2. The allocated costs to reimbursable and nonreimbursable purposes for these joint facilities are distributed between the project conservation facilities and project transportation facilities by the Proportionate Use of Facilities method.

3. The portions of reimbursable and nonreimbursable costs assigned to project transportation facilities in (2) above are combined with similar costs resulting from an allocation of the costs of project transportation facilities located below Dos Amigos Pumping Plant by the Alternative Justifiable Expenditure method.

Items (1) and (2) above are combined in the allocation of the costs of facilities from the Delta to Dos Amigos Pumping Plant. This is shown in Table 11. The cost allocation for project transportation facilities located downstream from Dos Amigos Pumping Plant is presented in Table 12, using the Alternative Justifiable Expenditure method. The illustrative allocation of the joint costs of the California Aqueduct among purposes and between project conservation facilities and project transportation facilities, derived in Step 12 of Tables 11 and 12, are summarized below:

| Item | : | : | Total |
|------|---|---------------------------|-------|
| | : | : Recreation : | |
| | : | : and fish and: | |
| | : | : wildlife : enhancement: | |

Conservation Facilities:

| | | | |
|-------------------------|-------|------|--------|
| Capital costs | 91.3% | 8.7% | 100.0% |
| Minimum O.M.P.&R. costs | 94.4% | 5.6% | 100.0% |

Transportation Facilities:

| | | | |
|-------------------------|-------|------|--------|
| Capital costs | 97.0% | 3.0% | 100.0% |
| Minimum O.M.P.&R. costs | 92.9% | 7.1% | 100.0% |

TABLE 11

ILLUSTRATIVE DERIVATION OF ALLOCATION PERCENTAGES
FOR THE CALIFORNIA AQUEDUCT
DELTA TO DOS AMIGOS PUMPING PLANT

(in thousands of dollars unless otherwise noted)

| Step No. | Item of benefit or cost ^{a/} | Water supply | Recreation and fish and wildlife enhancement | Total |
|---|--|-----------------|---|--------|
| <u>Total Project Costs: Delta to Dos Amigos Pumping Plant</u> | | | | |
| 1. | Benefits (State only) | 42,100 | 3,800 | 45,900 |
| 2. | Alternative Costs | 18,300 | 4,200 | 22,500 |
| 3. | Justifiable Costs | 18,300 | 3,800 | 22,100 |
| 4. | Separable Costs: | | | |
| | Total | 16,200 | 2,600 | 18,800 |
| | Capital | 9,300 | 1,100 | 10,400 |
| | O.M.P.&R. | 6,900 | 1,500 | 8,400 |
| 5. | Remaining Justifiable Costs | 2,100 | 1,200 | 3,300 |
| 6. | Percent Distribution of Remaining Justifiable Costs | 63.6% | 36.4% | 100.0% |
| 7. | Remaining Joint Costs: | | | |
| | Total | 1,300 | 700 | 2,000 |
| | Capital | 1,200 | 600 | 1,800 |
| | O.M.P.&R. | 100 | 100 | 200 |
| 8. | Total Allocated Project Costs: | | | |
| | Total | 17,500 | 3,300 | 20,800 |
| | Capital | 10,500 | 1,700 | 12,200 |
| | O.M.P.&R. | 7,000 | 1,600 | 8,600 |
| 9. | Percent Distribution of Total Project Costs: | | | |
| | Total | 84.1% | 15.9% | 100.0% |
| | Capital | 86.1% | 13.9% | 100.0% |
| | O.M.P.&R. | 81.4% | 18.6% | 100.0% |
| 10. | Specific Costs, This Allocation: | | | |
| | Total | 3,600 | 2,100 | 5,700 |
| | Capital (Specific Features) | 0 | 700 | 700 |
| | O.M.P.&R. (Specific Features) | 0 | 1,400 | 1,400 |
| | Variable O.M.P.&R. (Joint Features) | 3,600 | - | 3,600 |
| 11. | Allocated Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 13,900 | 1,200 | 15,100 |
| | Capital | 10,500 | 1,000 | 11,500 |
| | Minimum O.M.P.&R. | 3,400 | 200 | 3,600 |
| 12. | Percent Distribution of Costs of Features Jointly Used: ^{b/} | | | |
| | Total, excluding Variable O.M.P.&R. | 92.1% | 7.9% | 100.0% |
| | Capital | 91.3% | 8.7% | 100.0% |
| | Minimum O.M.P.&R. | 94.4% | 5.6% | 100.0% |
| <u>Project Conservation Facilities</u> | | | | |
| 13. | Allocated Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 6,600 | 600 | 7,200 |
| | Capital | 5,100 | 500 | 5,600 |
| | Minimum O.M.P.&R. | 1,500 | 100 | 1,600 |
| <u>Project Transportation Facilities</u> | | | | |
| 14. | Allocated Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 7,300 | 600 | 7,900 |
| | Capital | 5,400 | 500 | 5,900 |
| | Minimum O.M.P.&R. | 1,900 | 100 | 2,000 |

^{a/} Annual benefits and costs through the year 2017 converted to equal annual equivalents for the 50-year period, 1968-2017, at 3.7 percent interest. Steps 1 through 12 comprise the Separable Costs-Remaining Benefits method and Steps 13 and 14 express the Proportionate Use of Facilities method.

^{b/} Constituting also the percent distribution of allocated costs of features jointly used in the project conservation facilities of the California Aqueduct.

TABLE 12

ILLUSTRATIVE DERIVATION OF ALLOCATION PERCENTAGES
FOR THE CALIFORNIA AQUEDUCT
DOS AMIGOS PUMPING PLANT TO TERMINI

(in thousands of dollars unless otherwise noted)

| Step No. | Item of benefit or cost ^{a/} | Water supply | Recreation and fish and wildlife enhancement | Total |
|---|---|-----------------|---|---------|
| <u>Project Transportation Facilities: Dos Amigos Pumping Plant to Termini</u> | | | | |
| 1. | Benefits | 176,700 | 9,600 | 186,300 |
| 2. | Alternative Costs | - | - | - |
| 3. | Justifiable Costs | 176,700 | 9,600 | 186,300 |
| 4. | Specific Costs: | | | |
| | Total | 2,400 | 5,600 | 8,000 |
| | Capital | 1,800 | 2,000 | 3,800 |
| | O.M.P.&R. | 600 | 3,600 | 4,200 |
| 5. | Remaining Justifiable Costs | 174,300 | 4,000 | 178,300 |
| 6. | Percent Distribution of Remaining Justifiable Costs | 97.8% | 2.2% | 100.0% |
| 7. | Remaining Joint Costs: | | | |
| | Total | 71,100 | 1,600 | 72,700 |
| | Capital | 46,700 | 1,100 | 47,800 |
| | O.M.P.&R. | 24,400 | 500 | 24,900 |
| 8. | Total Allocated Project Costs: | | | |
| | Total | 73,500 | 7,200 | 80,700 |
| | Capital | 48,500 | 3,100 | 51,600 |
| | O.M.P.&R. | 25,000 | 4,100 | 29,100 |
| 9. | Percent Distribution of Total Project Costs: | | | |
| | Total | 91.1% | 8.9% | 100.0% |
| | Capital | 94.0% | 6.0% | 100.0% |
| | O.M.P.&R. | 85.9% | 14.1% | 100.0% |
| 10. | Specific Costs, This Allocation: | | | |
| | Total | 20,800 | 5,600 | 26,400 |
| | Capital (Specific Features) | 1,800 | 2,000 | 3,800 |
| | O.M.P.&R. (Specific Features) | 600 | 3,600 | 4,200 |
| | Variable O.M.P.&R. (Joint Features) | 18,400 | - | 18,400 |
| 11a. | Allocated Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 52,700 | 1,600 | 54,300 |
| | Capital | 46,700 | 1,100 | 47,800 |
| | Minimum O.M.P.&R. | 6,000 | 500 | 6,500 |
| <u>Project Transportation Facilities: Delta to Dos Amigos Pumping Plant</u> | | | | |
| 11b. | Allocated Costs of Features Jointly Used: ^{b/} | | | |
| | Total, excluding Variable O.M.P.&R. | 7,300 | 600 | 7,900 |
| | Capital | 5,400 | 500 | 5,900 |
| | Minimum O.M.P.&R. | 1,900 | 100 | 2,000 |
| <u>Project Transportation Facilities: Delta to Termini</u> | | | | |
| 11c. | Allocated Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 60,000 | 2,200 | 62,200 |
| | Capital | 52,100 | 1,600 | 53,700 |
| | Minimum O.M.P.&R. | 7,900 | 600 | 8,500 |
| 12. | Percent Distribution of Costs of Features Jointly Used: | | | |
| | Total, excluding Variable O.M.P.&R. | 96.5% | 3.5% | 100.0% |
| | Capital | 97.0% | 3.0% | 100.0% |
| | Minimum O.M.P.&R. | 92.9% | 7.1% | 100.0% |

^{a/} Annual benefits and costs through the year 2017 converted to equal annual equivalents for the 50-year period, 1968-2017, at 3.7 percent interest. Steps 1 through 11a comprise the Alternative Justifiable Expenditure Method.

^{b/} From Step 14, Table 10.

North Bay Aqueduct

The total costs of the North Bay Aqueduct are tentatively assigned to the project purpose of water supply. Studies indicate that the portion of the facility's cost which may eventually be allocable to recreation and fish and wildlife enhancement would not be of an appreciable magnitude.

San Joaquin Drainage Facilities

The San Joaquin Drainage Facilities are tentatively assumed to be for the single purpose of agricultural waste water disposal. Recreation and fish and wildlife enhancement developments could be incorporated within the facility.

Remaining Project Facilities

The project facilities for which allocation percentages have not been previously derived in the Bulletin 153 series include Dixie Refuge Dam and reservoir, the Delta Facilities, and the Upper Eel River Development. The percentages currently assumed for these facilities are shown in Table 4. The Bulletin 153 series will continue until final percentages are developed for all project facilities, including those facilities for which only tentative or illustrative percentages have been derived to date.

APPENDIX A

DETAILS OF THE DERIVATION OF ALLOCATION PERCENTAGES FOR FRENCHMAN DAM AND LAKE

APPENDIX A

DETAILS OF THE DERIVATION OF ALLOCATION PERCENTAGES FOR FRENCHMAN DAM AND LAKE

Frenchman Dam and Lake was constructed to serve the purposes of water supply, recreation and fish and wildlife enhancement. The derivation of allocation percentages for Frenchman Dam and Lake, by the Separable Costs-Remaining Benefits method, is summarized in Table 7. (The Separable Costs-Remaining Benefits method and the Department's cost allocation procedure are pictorially described in Appendix A, Bulletin 153-67.) This appendix substantiates the values shown for each item in Table 7.

Benefits

All estimated annual benefits for Frenchman Dam and Lake were estimated for the 50-year period of analysis, 1962 through 2011 -- and were converted to equal annual equivalent values at an interest rate of 4 percent.

Water Supply

The water supply benefits associated with Frenchman Dam and Lake were estimated on the basis of the increase in net returns from farming operations expected to result from operation of the facility. The scope of farming operations without the facility, during the 50-year period of analysis, was based upon estimates of acreages that could have been beneficially irrigated by natural flows of Little Last Chance Creek during the historical 50-year period, 1914 through 1963. The farming practices assumed were those currently used in Sierra Valley.

The estimate of net returns from farming operations under project conditions was based on the estimated availability of irrigation water from Frenchman Dam and Lake, assuming the facility had been in operation during the period 1914 through 1963. The reservoir was assumed to yield a minimum of 5,000 acre-feet per year and a maximum of 12,000 acre-feet per year, producing an average supply over the 50 years of about 10,000 acre-feet based on a gross reservoir storage capacity of 50,000 acre-feet. These water supply estimates were used to project annual irrigated acreages and, in turn, net agricultural income. It was predicted that full development of the land under project conditions would occur by the end of the first decade.

The tabulation below summarizes the foregoing estimates of increased net returns from farming operations, due to the contemplated operation of Frenchman Dam and Lake. The estimated water supply benefits are shown by decade totals, together with the total present worth of such benefits.

WATER SUPPLY BENEFITS OF FRENCHMAN DAM AND LAKE

(in dollars)

| Decade | : | Total | : | Present worth |
|--|---|-----------|---|---------------|
| | : | benefits | : | of benefits |
| 1962-1971 | | 194,900 | | 160,200 |
| 1972-1981 | | 619,400 | | 344,000 |
| 1982-1991 | | 619,400 | | 232,300 |
| 1992-2001 | | 619,400 | | 157,000 |
| 2002-2011 | | 619,400 | | 106,000 |
| TOTALS | | 2,672,500 | | 999,500 |
| Equal annual equivalent benefits at 4 percent interest for 50-year period, 1962-2011 | | | | 46,500 |

Recreation and Fish and Wildlife Enhancement

An actual survey of trips by recreationists to Frenchman Lake was conducted during 1963. On the basis of the survey and estimates of growth of population in the area of California from which recreation visits to Frenchman Lake would originate, the future annual visitor-day use was projected both with and without Frenchman Dam and Lake. The results of these visitor-day estimates for representative years, together with the projected increases due to the facility, are given in the following table:

VISITOR-USE OF FRENCHMAN DAM AND LAKE FOR RECREATION AND FISH AND WILDLIFE

(in visitor-days)

| Calendar | : | Nonproject | : | Project | : | Net increases |
|----------|---|------------|---|------------|---|----------------|
| year | : | conditions | : | conditions | : | due to project |
| 1962 | | 1,400 | | 32,000 | | 30,600 |
| 1963 | | 1,500 | | 61,000 | | 59,500 |
| 1970 | | 2,000 | | 100,000 | | 98,000 |
| 1980 | | 3,000 | | 127,000 | | 124,000 |
| 1990 | | 5,000 | | 146,000 | | 141,000 |
| 2000 | | 6,000 | | 167,000 | | 161,000 |
| 2010 | | 7,000 | | 218,000 | | 211,000 |

The derivation of recreation and fish and wildlife benefits due to Frenchman Dam and Lake was based on the above visitor-use estimates. The unit benefit from recreation and fish and wildlife enhancement was estimated by the Trice-Wood method to be \$2.40 per visitor-day, inclusive of both daytime and overnight usage. This unit value was applied to each annual value of the projected increase in visitor-day recreation use. The following table summarizes, by decade, the estimated total benefits and the present worths thereof:

RECREATION AND FISH AND WILDLIFE ENHANCEMENT BENEFITS
OF FRENCHMAN DAM AND LAKE

(in dollars)

| Decade | Total benefits | Present worth of benefits |
|--|-------------------|------------------------------|
| 1962-1971 | 1,537,000 | 1,263,200 |
| 1972-1981 | 2,684,800 | 1,490,800 |
| 1982-1991 | 3,316,500 | 1,244,100 |
| 1992-2001 | 3,837,600 | 972,400 |
| 2002-2011 | 5,138,400 | 879,700 |
| TOTALS | 16,514,300 | 5,850,000 |
| Equal annual equivalent benefits at 4 percent interest for 50-year period, 1962-2011 | | |
| | | 272,300 |

Total Project Costs

All equal annual equivalent costs summarized in Table 7 were computed at an interest rate of 3 percent. The total project capital and operation, maintenance, power and replacement (OMP&R) costs of Frenchman Dam and Lake, estimated originally in Bulletin 59 and used in the derivation of allocation percentages, are shown on the following page:

TOTAL PROJECT COSTS FRENCHMAN DAM AND LAKE

(in thousands of dollars)

| Features | : | : | Equal annual equivalent | |
|----------------------------------|--------------|-------------|--------------------------|---------------|
| | : | Capital | costs at 3% interest for | |
| | : | costs | 50-year period 1962-2011 | |
| | : | : | Capital | OMP&R : Total |
| <u>Dam and Reservoir</u> | | | | |
| Dam and appurtenances | 885.3 | 34.3 | 11.1 | 45.4 |
| Lands, easements and relocations | <u>470.2</u> | <u>18.3</u> | <u> </u> | <u>18.3</u> |
| Total Joint Costs | 1,355.5 | 52.6 | 11.1 | 63.7 |
| <u>Recreation Developments</u> | | | | |
| Onshore facilities | 225.6 | 8.9 | 12.0 | 20.9 |
| Lands, easements and relocations | <u>113.5</u> | <u>4.4</u> | <u>0</u> | <u>4.4</u> |
| Total Specific Costs | 339.1 | 13.3 | 12.0 | 25.3 |
| TOTAL COST OF FACILITY | 1,694.6 | 65.9 | 23.1 | 89.0 |

Alternative Costs

The alternative cost of a project purpose is estimated as the annual cost of the least costly alternative single-purpose facility that would accomplish the same benefits for that purpose as the multiple-purpose facility. Equal annual equivalent alternative costs were computed at an interest rate of 3 percent.

Water Supply

The single-purpose alternative for the purpose of project irrigation water supply was considered to be a dam and reservoir at the Frenchman site with a gross storage capacity of 30,000 acre-feet and dead storage of 1,300 acre-feet. The following tabulation summarizes the total estimated costs of this hypothetical project:

ALTERNATIVE SINGLE-PURPOSE WATER SUPPLY COSTS

(in thousands of dollars)

| Features | : | : | : | : |
|--------------------------|-------------|------------|----------|--------------------------|
| | : | Capital | : | Equal annual equivalent |
| | : | costs | : | costs at 3% interest for |
| | : | | : | 50-year period 1962-2011 |
| | : | | : | Capital : OMP&R : Total |
| <u>Dam and Reservoir</u> | | | | |
| Dam and appurtenances | 626.3 | 24.3 | 8.0 | 32.3 |
| Lands and rights-of-way | 316.0 | 12.3 | 0 | 12.3 |
| Relocations | <u>43.2</u> | <u>1.7</u> | <u>0</u> | <u>1.7</u> |
| Total | 985.5 | 38.3 | 8.0 | 46.3 |

Recreation and Fish and Wildlife Enhancement

The single-purpose alternative facility, which would produce the same recreation and fish and wildlife enhancement benefits as the multiple-purpose facility, was considered to be a dam at the Frenchman site with a gross storage capacity of 30,000 acre-feet. The following tabulation summarizes the total estimated cost of this hypothetical project:

ALTERNATIVE SINGLE-PURPOSE RECREATION COSTS

(in thousands of dollars)

| Features | : | : | : | : |
|----------------------------------|--------------|------------|----------|--------------------------|
| | : | Capital | : | Equal annual equivalent |
| | : | costs | : | costs at 3% interest for |
| | : | | : | 50-year period 1962-2011 |
| | : | | : | Capital : OMP&R : Total |
| <u>Dam and Reservoir</u> | | | | |
| Dam and appurtenances | 626.3 | 24.3 | 8.0 | 32.3 |
| Lands and rights-of-way | 316.0 | 12.3 | 0 | 12.3 |
| Relocations | <u>43.2</u> | <u>1.7</u> | <u>0</u> | <u>1.7</u> |
| Subtotal | 985.5 | 38.3 | 8.0 | 46.3 |
| <u>Recreation Developments</u> | | | | |
| Onshore facilities | 225.6 | 8.9 | 12.0 | 20.9 |
| Lands, easements and relocations | <u>113.5</u> | <u>4.4</u> | <u>0</u> | <u>4.4</u> |
| Subtotal | 339.1 | 13.3 | 12.0 | 25.3 |
| TOTAL | 1,324.6 | 51.6 | 20.0 | 71.6 |

Separable Costs

Separable costs are estimated costs of the multiple-purpose facility which could be omitted if one particular project purpose were excluded. Equal annual equivalent alternative costs were computed at an interest rate of 3 percent for the 50-year period 1962-2011.

Water Supply

The separable water supply cost is the difference in cost between the estimated cost of the multiple-purpose facility and the estimated cost of the facility with the purpose of water supply omitted. The following tabulation develops the estimated separable costs of water supply:

SEPARABLE WATER SUPPLY COSTS

(in thousands of dollars unless otherwise noted)

| Facility | : | : | : | Equal annual equivalent | | |
|--|-------------|----------------|----------------------------|-------------------------|-------------|--|
| | :Capacity, | :Capital: | : costs at 3% interest for | | | |
| | : in | : costs | : 50-year period 1962-2011 | | | |
| | :acre-feet: | : | : Capital | : OMP&R | : Total | |
| Total project facility | 50,000 | 1,694.6 | 65.9 | 23.1 | 89.0 | |
| Less: Facility sized without the purpose of water supply ^{a/} | 30,000 | <u>1,324.6</u> | <u>51.6</u> | <u>20.0</u> | <u>71.6</u> | |
| Separable water supply costs | | 370.0 | 14.3 | 3.1 | 17.4 | |

^{a/} Same as the alternative single-purpose recreation and fish and wildlife enhancement project.

Recreation and Fish and Wildlife Enhancement

The separable recreation and fish and wildlife enhancement cost is the difference between the cost of the multiple-purpose facility and the cost of the facility with the recreation purpose omitted. The following tabulation develops the separable costs of recreation and fish and wildlife enhancement:

SEPARABLE RECREATION
AND FISH AND WILDLIFE ENHANCEMENT COSTS

(in thousands of dollars unless otherwise noted)

| Facility | : Capacity, in acre-feet: | : Capital: costs | : Equal annual equivalent costs at 3% interest for 50-year period 1962-2011 Capital : OMP&R : Total | | |
|--|------------------------------------|------------------------|--|------------|-------------|
| Total project facility | 50,000 | 1,694.6 | 65.9 | 23.1 | 89.0 |
| Less: Facility sized without the purpose of recreation and fish and wildlife enhancement ^{a/} | 30,000 | <u>985.5</u> | <u>38.3</u> | <u>8.0</u> | <u>46.3</u> |
| Separable recreation and fish and wild- life enhancement costs | | 709.1 | 27.6 | 15.1 | 42.7 |

^{a/} Same as the alternative single-purpose water supply project.

Computational Procedure

The estimated total costs of Frenchman Dam and Lake were allocated among the purposes by the Separable Costs-Remaining Benefits method shown in Steps 1 through 8 of the procedure outlined below. Under this method, each included purpose was assigned its estimated separable cost (Step 4), together with a share of the remaining joint costs (Step 7). The purpose's share of the remaining joint costs was assigned in proportion to the purpose's remaining justifiable costs (Step 5). The steps of the computational procedure were as follows:

1. The benefits for each purpose were presented.
2. The alternative costs of single-purpose facilities were presented.
3. The justifiable costs were determined for each purpose as the lesser of either of the values presented in Step 1 or Step 2.
4. The separable costs of each purpose were presented.

5. The remaining justifiable costs were determined for each facility purpose by subtracting the separable costs for each purpose (Step 4) from its justifiable costs (Step 3).
6. The remaining justifiable costs for each purpose (Step 5) were expressed as percentages of the total.
7. The total separable costs were deducted from the total allocation project costs to determine the total remaining joint costs. The total remaining joint costs were then distributed proportionately among the project purposes by applying the percentages determined in Step 6.
8. The total project costs allocated to each purpose were determined as the sum of the estimated separable costs (Step 4) and the estimated remaining joint costs assigned to the purpose (Step 7).

Percentages applicable to the facility's estimated joint costs (i.e., the estimated costs of features jointly used by both purposes) were then derived from the above allocation -- shown in Steps 10 through 12 of the procedure outlined below. For comparison, the allocation percentages applicable to the total estimated costs of the facility are shown in Step 9, as follows:

9. The estimated total costs, allocated among purposes (Step 8), were expressed as percentages of the total.
10. The estimated specific costs of Frenchman Dam and Lake (i.e., those for the recreation and fish and wildlife development) were presented.
11. The estimated joint costs (i.e., those for features jointly used by both purposes) were assigned to each purpose by deducting the specific costs (Step 10) from the purpose's total allocated costs (Step 8).
12. The estimated joint costs, allocated among purposes (Step 11), were expressed as percentages of the total.

APPENDIX B

DETAILS OF THE DERIVATION OF ALLOCATION PERCENTAGES
FOR GRIZZLY VALLEY DAM AND LAKE DAVIS

APPENDIX B

DETAILS OF THE DERIVATION OF ALLOCATION PERCENTAGES FOR GRIZZLY VALLEY DAM AND LAKE DAVIS

Grizzly Valley Dam and Lake Davis will serve the project purposes of water supply, recreation and fish and wildlife enhancement.

As a separate facility of the State Water Project, Grizzly Valley Dam and Lake Davis encompass three categories of features as to use: features jointly used by project purposes (the Dam and Lake); associated recreation developments (such as access to the downstream channel, picnic areas, and campsites); and features used exclusively for water supply (the proposed Grizzly Valley Pipeline). The features jointly used by project purposes are classified as "project conservation facilities" under the "Standard Provisions for Water Supply Contract". The Grizzly Valley Pipeline is defined as a "project transportation facility" in the special provisions of the water supply contract with the Plumas County Flood Control and Water Conservation District [Article 45(c)].

The reimbursable costs of "project conservation facilities" and "project transportation facilities" are returned to the State through contractor payments of two separate charges: the Delta Water Charge and the Transportation Charge, respectively. Therefore, the total costs of these two types of contractual facilities are allocated separately among reimbursable and non-reimbursable purposes under the Department's procedure. The costs of the Dam, Lake, and associated recreation developments are allocated among purposes separately from the costs of the Pipeline. The derivation of allocation percentages is based upon the Separable Costs-Remaining Benefits method in accordance with Article 22(e) of the Standard Provisions for Water Supply Contract". Since the Grizzly Valley Pipeline will be used exclusively for the reimbursable purpose of water supply, an allocation of the costs of this "project transportation facility" is not required.

As explained in a later section of this appendix, there are no estimated specific water supply costs or estimated separable water supply costs basic to the derivation of allocation percentages for the Dam and Lake due to the exclusion of the Pipeline from the features to be allocated.

At a hearing of the Assembly Interim Committee on Water in Los Angeles, January 14, 1966, the Department was questioned as to the validity of an allocation of costs to a project purpose for a facility where no specific or separable costs for that purpose can be identified.

The absence of specific and separable costs is recognized by authorities as a legitimate possibility in the cost allocation process.^{1/} Whether or not benefits will be realized from the operation of a project facility for a particular purpose determines whether or not a portion of a facility's cost should be allocated to the purpose. Under the Separable Costs-Remaining Benefits method, portions of the total costs of a facility are associated directly with purposes to the extent that separable costs may be associated with such purposes -- any remaining costs of the facility are allocated among the purposes in proportion to the remainder of the respective benefits (or justifiable costs) in excess of the associated separable costs. Thus, those purposes with no associated specific or separable costs are still allocated an equitable share of the total costs of a facility.

The derivation of allocation percentages for Grizzly Valley Dam and Lake Davis is presented in Table 8. This appendix describes the development of each item affecting the derivation and the computational procedure summarized in Table 8.

Items Affecting the Derivation

The estimated project benefits and costs of Grizzly Valley Dam and Lake Davis correspond with those presented for the recreation-urban water supply facility described in the Department's Bulletin 128, "Lake Davis", dated May 1965.

Benefits

All annual benefits for the facility were estimated for the 50-year period of analysis assumed in Bulletin 128 -- 1965 through 2014 -- and were converted to equal annual equivalent values at an interest rate of 4 percent.

Water Supply. The service area for the facility lies within the boundaries of the Plumas County Flood Control and Water Conservation District and is located in the vicinity of the City of Portola. Project water will supplement existing water service for domestic and municipal uses. Project water supply benefits were estimated to be \$46 per acre-foot on the basis of vendibility.

^{1/} For example, see paper by Mr. N. D. Bennett, Jr., Chief of Project Development, Bureau of Reclamation, U.S. Department of Interior, Washington, D.C., entitled "Cost Allocation for Multi-Purpose Water Projects", published in the Journal of the Irrigation and Drainage Division of the American Society of Civil Engineers, Vol. 82, No. IR2, May 1956.

The estimated buildup of project water deliveries and the project water supply benefits attributable to Grizzly Valley Dam and Lake Davis are shown below:

WATER SUPPLY BENEFITS
OF GRIZZLY VALLEY DAM AND LAKE DAVIS

| Calendar year | : Project water delivery : (in acre-feet) | : Water supply benefits : (in dollars) |
|--|---|--|
| 1967 | 250 | 11,500 |
| 1975 | 590 | 27,140 |
| 1985 | 890 | 40,940 |
| 1995 | 1,300 | 59,800 |
| 2005 | 1,880 | 86,480 |
| 2015 | 2,700 | 124,200 |
| Equal annual equivalent benefits at 4 percent interest for 50-year period, 1965-2014 | | 41,800 |

Recreation and Fish and Wildlife Enhancement. The recreation and fish and wildlife enhancement benefits due to the facility were estimated as the satisfaction to be received by individual recreationists who will visit the Lake and by individual anglers and hunters. Total benefits were based on the increase in use attributed to the Lake above that which would occur in the vicinity under natural conditions. Estimated increases in total visitor-days (including angler-days and hunter-days) in the Grizzly Valley area due to Lake Davis are shown for illustrative years in the following table:

VISITOR-USE OF GRIZZLY VALLEY DAM
AND LAKE DAVIS FOR RECREATION AND FISH AND WILDLIFE
(in visitor-days)

| Calendar year | : Total use: without project | : Total use :with project : (including downstream use) | : Total increased use |
|---------------|------------------------------|--|-----------------------|
| 1970 | 3,850 | 83,000 | 79,150 |
| 1980 | 5,150 | 134,000 | 128,850 |
| 1990 | 7,050 | 208,500 | 201,450 |
| 2000 | 10,100 | 325,200 | 315,100 |
| 2010 | 13,750 | 476,600 | 462,850 |

Cost of travel, origin of trip, number of visitors, and length of stay in the recreation area were considered in the determination of average recreation benefits. The average benefit for each visitor-day of daytime and overnight use was estimated by the

Trice-Wood method to be \$2.25. Estimated recreation and fish and wildlife enhancement benefits for Grizzly Valley Dam and Lake Davis are summarized in the following table:

RECREATION AND FISH AND WILDLIFE ENHANCEMENT BENEFITS
OF GRIZZLY VALLEY DAM AND LAKE DAVIS

(in dollars)

| Decade | : Total benefits due : to increased use : in a 10-year period | : Present worth of benefits |
|---|---|-----------------------------------|
| 1965-1974 | 1,781,000 | 1,464,000 |
| 1975-1984 | 2,899,000 | 1,610,000 |
| 1985-1994 | 4,533,000 | 1,700,000 |
| 1995-2004 | 7,090,000 | 1,797,000 |
| 2005-2014 | 10,414,000 | 1,783,000 |
| Equal annual equivalent benefits at 4 percent interest for 50- year period, 1965-2014 | | 388,900 |

Total Project Costs

Estimated capital and equal annual equivalent costs for Grizzly Valley Dam, Lake Davis, and associated features are shown in the following table:

TOTAL PROJECT COSTS
OF GRIZZLY VALLEY DAM AND LAKE DAVIS

(in thousands of dollars)

| Features | : Capital costs | : Equal annual equivalent costs | : Capital costs | : Equal annual equivalent costs |
|----------|-----------------------------|---------------------------------|-----------------|---------------------------------|
| | : 50-year period, 1965-2014 | : 50-year period, 1965-2014 | : Capital costs | : Equal annual equivalent costs |
| | : Capital costs | : Equal annual equivalent costs | : Capital costs | : Equal annual equivalent costs |

Features included in the "project conservation facilities":

Features jointly used:

| | | | | |
|---|---------|-------|------|-------|
| Grizzly Valley Dam, Lake Davis, road relocations, and project land acquisitions | 3,463.0 | 161.2 | 18.1 | 179.3 |
| Associated recreation developments ^{a/} | 1,821.3 | 84.9 | 51.5 | 136.4 |
| Total | 5,284.3 | 246.1 | 69.6 | 315.7 |

Features included in the "project transportation facilities":

| | | | | |
|-------------------------|-------|------|-----|------|
| Grizzly Valley Pipeline | 463.0 | 21.6 | 3.5 | 25.1 |
|-------------------------|-------|------|-----|------|

^{a/} Includes costs of future developments which will be constructed over the 50-year period to accommodate progressive increases in recreational demand.

Alternative Costs

The alternative costs of a project purpose of a multiple-purpose facility are estimated as the equal annual equivalent costs of the least costly alternative single-purpose facility that could provide the same benefits for that purpose as the multiple-purpose facility.

Water Supply. In order to allocate those features which are included in the multiple-purpose "project conservation facilities" (Grizzly Valley Dam, Lake Davis, and associated recreation developments) separately from those included in the single-purpose "project transportation facilities" (the Grizzly Valley Pipeline), it is necessary to associate the total estimated water supply benefits to be realized from all features between two types of "facilities". This distribution was based on the assumed equal annual equivalent costs of the two types of "facilities" allocable to water supply, as shown below:

| Item | : "Project : conservation : facilities" | : "Project : transportation : facilities" | : Total |
|--|---|---|----------|
| Assumed costs allocable to water supply, in equal annual equivalent costs | \$ 9,800 | \$25,100 | \$34,900 |
| Percentages of total costs allocated to water supply | 28.1% | 71.9% | 100.0% |
| Distribution of water supply benefits, in equal annual equivalents | \$11,700 | \$30,100 | \$41,800 |

The assumed water supply costs of \$9,800 for the "project transportation facilities" was confirmed in Step 8a of Table 8.

The single-purpose alternative water supply facility which could produce the same water supply benefits as the multiple-purpose facility (i.e., all features excluding the Pipeline) was estimated to be a dam at the site of Grizzly Valley Dam which would form a reservoir of about 4,000 acre-feet gross capacity. The reservoir would have an average annual yield of 2,700 acre-feet and would provide the same urban benefits as the multiple-purpose facility. The following table summarizes the total estimated cost of this hypothetical single-purpose facility:

ALTERNATIVE SINGLE-PURPOSE WATER SUPPLY COSTS

(in thousands of dollars)

| Features | : Equal annual equivalent | | | |
|------------------------|------------------------------------|------|------|------|
| | :Capital: costs at 4% interest for | | | |
| | : costs :50-year period, 1965-2014 | | | |
| | : :Capital:O.M.P.&R: Total | | | |
| Dams and appurtenances | 910.0 | 42.4 | 10.0 | 52.4 |
| Lands and easements | 180.0 | 8.4 | 0.0 | 8.4 |
| Total | 1,090.0 | 50.8 | 10.0 | 60.8 |

Recreation and Fish and Wildlife Enhancement. The alternative single-purpose facility which could produce the same recreation and fish and wildlife benefits as the multiple-purpose facility (i.e., all features excluding the Pipeline) was estimated to consist of a dam at the same site as Grizzly Valley Dam and identical associated recreation developments. The alternative dam would form a reservoir of about 79,000 acre-feet gross capacity and would be less than one foot lower in height than Grizzly Valley Dam. Therefore, it was assumed that the estimated costs of the alternative facility would be the same as the estimated costs of Grizzly Valley Dam, Lake Davis, and associated recreation developments -- for all practical purposes.

Separable Costs

Separable costs are the total estimated costs of a multiple-purpose facility which could be omitted if one particular purpose were excluded.

Water Supply. The estimated separable costs of water supply would be the difference in estimated costs of the multiple-purpose facility (i.e., all features excluding the Pipeline) and the estimated costs of the alternative recreation and fish and wildlife enhancement facility. Since the estimated costs of the alternative facility were estimated to be the same as the estimated costs of Grizzly Valley Dam, Lake Davis, and associated recreation developments, the separable costs of water supply were estimated to be zero -- for all practical purposes.

Recreation and Fish and Wildlife Enhancement. The estimated separable costs of recreation and fish and wildlife enhancement would be the difference in estimated costs of the multiple-purpose facility (i.e., all features excluding the Pipeline) and the estimated costs of the alternative water supply facility. The estimated separable costs of recreation and fish and wildlife enhancement were developed as follows:

SEPARABLE RECREATION
AND FISH AND WILDLIFE ENHANCEMENT COSTS

(in thousands of dollars)

| Facility | : | : | : | : |
|--|----------------|-----------------------------------|-------------|-------------|
| | : | Equal annual equivalent | | |
| | : | Capital: costs at 4% interest for | | |
| | : | costs :50-year period, 1965-2014 | | |
| | : | Capital:O.M.P.&R.: Total | | |
| <hr/> | | | | |
| Multiple-purpose facility (83,000 acre-foot reser- voir) | 5,284.3 | 246.1 | 69.6 | 315.7 |
| less: Alternative water supply facility (4,000 acre-foot reservoir) | <u>1,090.0</u> | <u>50.8</u> | <u>10.0</u> | <u>60.8</u> |
| equals: Separable costs of recreation and fish and wildlife enhance- ment | 4,194.3 | 195.3 | 59.6 | 254.9 |
| <hr/> | | | | |

Computational Procedure

As summarized in Table 8, the estimated costs of Grizzly Valley Dam, Lake Davis, and associated recreation developments, constituting "project conservation facilities", were allocated among project purposes by the Separable Costs-Remaining Benefits method in Steps 1 through 8a of the procedure outlined below: Each purpose was assigned its estimated separable costs (Step 4), together with a share of the remaining joint costs (Step 7). The share of the remaining joint costs was assigned in proportion to each purpose's remaining justifiable costs (Step 5). These steps of the computational procedure were as follows:

1. The benefits for each purpose were presented.
2. The alternative costs of single-purpose facilities were presented.
3. The justifiable costs of each purpose were determined as the lesser of either of the values presented in Step 1 or Step 2.
4. The separable costs of each purpose were presented.
5. The remaining justifiable costs of each purpose were determined by subtracting the separable costs of each purpose (Step 4) from the justifiable costs of each purpose (Step 3).

6. The remaining justifiable costs of each purpose (Step 5) were expressed as percentages of the total.

7. The total separable costs were deducted from the total costs of the features included in the "project conservation facilities" to determine the total remaining joint costs. The total remaining joint costs were then distributed proportionately among purposes by applying the percentages determined in Step 6.

8a. The total costs of features included in the "project conservation facilities" allocated to each purpose were determined as the sum of the estimated separable costs of the purpose (Step 4) and the estimated remaining joint costs assigned to the purpose (Step 7).

Percentages applicable to the estimated total costs of the project facility (i.e., Grizzly Valley Dam, Lake Davis, Grizzly Valley Pipeline, and associated recreation developments) were developed in Steps 8b through 9:

8b. The total estimated costs of features included in the project transportation facilities (i.e., those for the Grizzly Valley Pipeline) were presented.

8c. The total estimated costs for the project facility allocated to each purpose were determined as the sum of the estimated costs of features included in the "project conservation facilities" (Step 8a) and the estimated costs of features included in the "project transportation facilities" (Step 8b).

9. The portions of the estimated total costs of the project facility allocated among purposes (Step 8c) were expressed as percentages of the total.

Percentages applicable to the estimated joint costs of the facility (i.e., the estimated costs of features jointly used by both purposes) were then derived from the above allocation, as shown in Steps 10 through 12:

10. The estimated specific costs of the project facility (i.e., those for associated recreation developments and the Grizzly Valley Pipeline) were presented.

11. The estimated joint costs (i.e., those for features jointly used by both purposes) were assigned to each purpose by deducting the specific costs (Step 10) from the total costs allocated to each purpose (Step 8c).

12. The portions of the estimated joint costs allocated to each purpose (Step 11), were expressed as percentages.

APPENDIX C

COMMENTS BY THE DEPARTMENT OF PARKS AND RECREATION

Memorandum

To : Honorable William R. Gianelli, Director
Department of Water Resources
Resources Building, 11th Floor
Sacramento, California

Date : December 26, 1967

Subject: Department of Water
Resources Cost Allocations
for Facilities of the State
Water Project

From : Department of Parks and Recreation

Your December 13, 1967 memorandum, subject above, was not received in this office until December 21; therefore, we were unable to prepare our comments as requested.

The Department of Parks and Recreation has reviewed in detail cost allocation proposals for Frenchman and Antelope Dams and Lakes, Grizzly Valley Dam and Lake Davis, and on land acquisition expenditures contained in Table 1, Department of Water Resources Bulletin 153-68. We agree to the allocations for the Frenchman, Antelope and Lake Davis projects as presented in Table 1 of Bulletin 153-68.

You also are requesting reimbursement for those costs which apply to rights of way, easements and property for recreation development associated with several of the units of the State Water Project as presented in the second portion of Table 1. The Department of Parks and Recreation agrees with those costs as presented.

The following comments are directed to information contained in the balance of Bulletin 153-68. It seems that cost allocations which are indicated for units of the State Water Project below the Upper Feather River basin are based upon the assumption that development of recreation facilities will take place according to existing plans. Because of prevailing financial conditions, this development may not take place as planned. Therefore, it is suggested that next year's report, Bulletin 153-69, be based upon costs allocated to recreation which recognize this fact.


It is also suggested that Bulletin 153-69 be prepared in accordance with decisions to be made in the near future by the Resources Agency concerning recommendations contained in the report of the Recreation Task Force on the State Water Project.

On Page 32 of Bulletin 153-68, you state that Del Valle Reservoir will be operated for flood control, water supply, recreation, and fish and wildlife enhancement. With the exception of 5,000 acre feet reserved as a minimum pool for recreation and fish, I know of no specific considerations provided in the operations schedule for

recreation or fish and wildlife. Your statement should be modified to read, "Del Valle Reservoir will be operated for flood control and water supply". An alternative would be to modify the operations schedule to accommodate recreation as a project purpose.

On Page 38 under the heading North Bay Aqueduct, your report states that recreation and fish and wildlife enhancement developments are currently being studied and the tentative allocation may be revised to a multiple-purpose allocation when such studies are complete. To the best of my knowledge, no recreation studies are being made currently for the North Bay Aqueduct. This statement should be removed from Bulletin 153-68.

Thank you for the opportunity to review and comment upon the advance copy of Bulletin 153-68.



William Penn Mott, Jr.
Director

APPENDIX D

COMMENTS BY THE DEPARTMENT OF FISH AND GAME

Note: References to Table 1 in this appendix are to a review draft of the final version shown on page 7. Minor cost adjustments are reflected in the final version as summarized below:

| | <u>Review draft</u> | <u>Final version</u> |
|---|-------------------------|--------------------------|
| Joint capital costs allocated to recreation and fish and wildlife enhancement | \$10,606,244 | \$10,568,454 |
| Specific recreation land costs | <u>2,942,819</u> | <u>2,942,840</u> |
| Total costs reported | \$13,549,063 | \$13,511,294 |

Memorandum

To : Honorable William R. Gianelli, Director Date: December 28, 1967
Department of Water Resources
1416 Ninth Street
Sacramento, California 95814

From : Department of Fish and Game

Subject: WP - State of California, Department of Water Resources -
State Water Project - Allocations of Project Costs to
Recreation and Fish and Wildlife Enhancement

Pursuant to Water Code Section 11912, as amended by California Statutes of 1966, Chapter 27, you requested our written comments on State Water Project costs allocated to recreation and fish and wildlife enhancement as presented in Table 1 of your proposed Bulletin No. 153-68.

Table 1 presents total joint costs of \$10,606,244 allocated to recreation and fish and wildlife enhancement, including interest, for Frenchman and Antelope Dams and Lakes and for Grizzly Valley Dam and Lake Davis. It also shows California Water Fund and Bond Fund expenditures of \$2,942,819 for recreation and fish and wildlife enhancement lands, for a total of \$13,549,063 for which you are requesting legislative approval.

The Department of Fish and Game concurs with the costs presented in Table 1 of Bulletin No. 153-68.

Your memorandum of December 13, 1967 also asked for our comments on any other cost allocation considerations that are pertinent at this time. In reviewing the preliminary draft of Bulletin No. 153-68, we note that cost allocation percentages are presented for all project conservation and transportation facilities. The fact that allocation percentages for other than Frenchman, Antelope and Grizzly Valley Dams are not final is clearly stated.

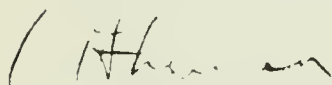
We believe it is appropriate that Bulletin No. 153-68 call attention to the uncertain status of allocations for certain facilities, particularly the South Bay and California Aqueducts. It is now readily apparent that most recreation and fish and wildlife enhancement features of the State Water Project will not be developed as formulated or scheduled because of funding problems. Thus, the benefits upon which present allocations are based will not be realized as planned. Substantial adjustments in cost allocations to recreation and fish and wildlife enhancement may be necessary.

The review and re-scoping of this aspect of the State Water Project by the Resources Agency should provide a sound basis for allocation revisions. When the Resources Agency establishes priorities for development of the various Davis-Dolwig features, we will be happy to assist you in preparing appropriate cost allocation adjustments for Bulletin No. 153-69.

The statement on page 32 of the Bulletin No. 153-68 draft that fish and wildlife enhancement is a purpose of Del Valle Reservoir and that the reservoir will be operated for that purpose as well as other purposes is at variance with our views. We do not believe that Del Valle Reservoir was planned, designed, or will be operated with fish and wildlife enhancement in mind. Any benefits that will accrue to that purpose at Del Valle Reservoir are purely incidental to other project purposes.

The status of fish and wildlife enhancement at Del Valle Reservoir was established in Department of Water Resources' Bulletin No. 117-2, "Del Valle Reservoir Recreation Development Plan", which states that it is not a project purpose.

The studies of recreation and fish and wildlife enhancement in connection with the North Bay Aqueduct referred to on page 38 are encouraging. We believe this facility possesses appreciable potential for fish and wildlife enhancement, along the lines we proposed to your Department in 1964. Hopefully, your present studies, of which we were not previously aware, will result in plans for definite Davis-Dolwig features.



Director

cc: Honorable N. B. Livermore, Jr.
Administrator
The Resources Agency

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

LOCATION OF FACILITIES

THE CALIFORNIA STATE WATER PROJECT

SCALE OF MILES
40 0 40 80 120



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES









RECREATION LAND USE PLAN

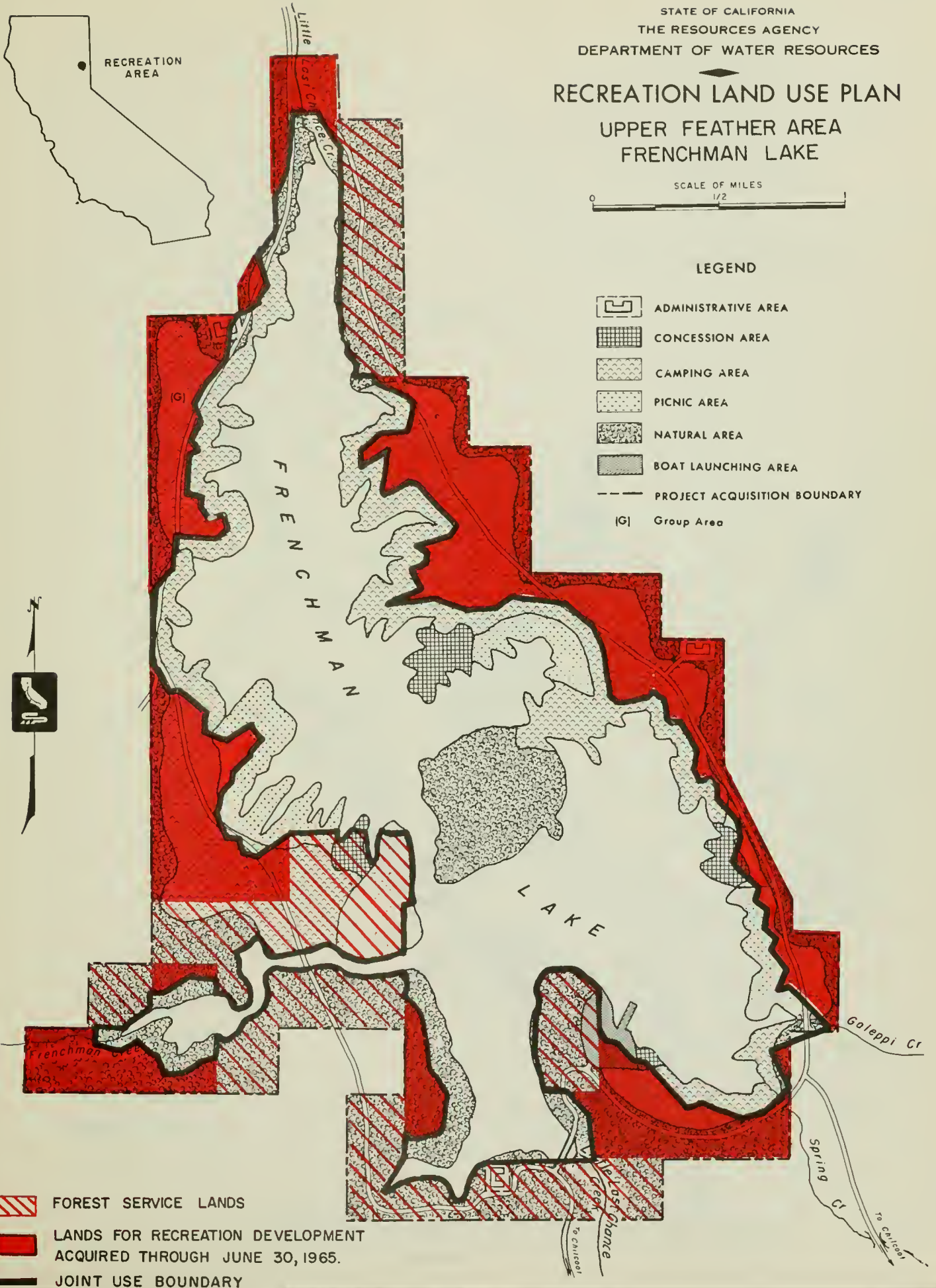
UPPER FEATHER AREA

FRENCHMAN LAKE

SCALE OF MILES
0 1/2 1

LEGEND

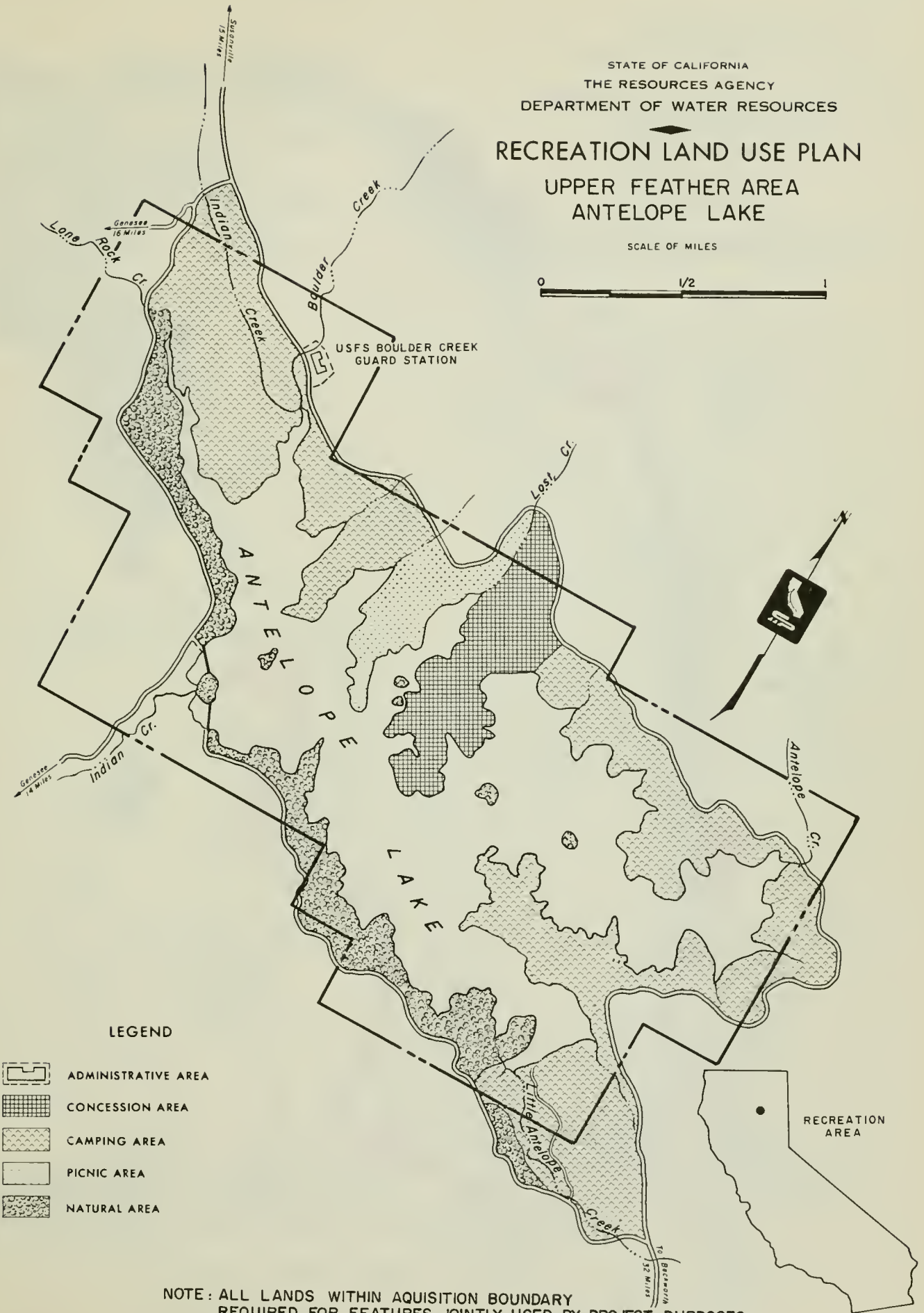
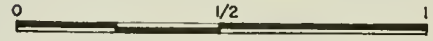
-  ADMINISTRATIVE AREA
-  CONCESSION AREA
-  CAMPING AREA
-  PICNIC AREA
-  NATURAL AREA
-  BOAT LAUNCHING AREA
-  PROJECT ACQUISITION BOUNDARY
-  (G) Group Area



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

RECREATION LAND USE PLAN
UPPER FEATHER AREA
ANTELOPE LAKE

SCALE OF MILES



LEGEND

- ADMINISTRATIVE AREA
- CONCESSION AREA
- CAMPING AREA
- PICNIC AREA
- NATURAL AREA

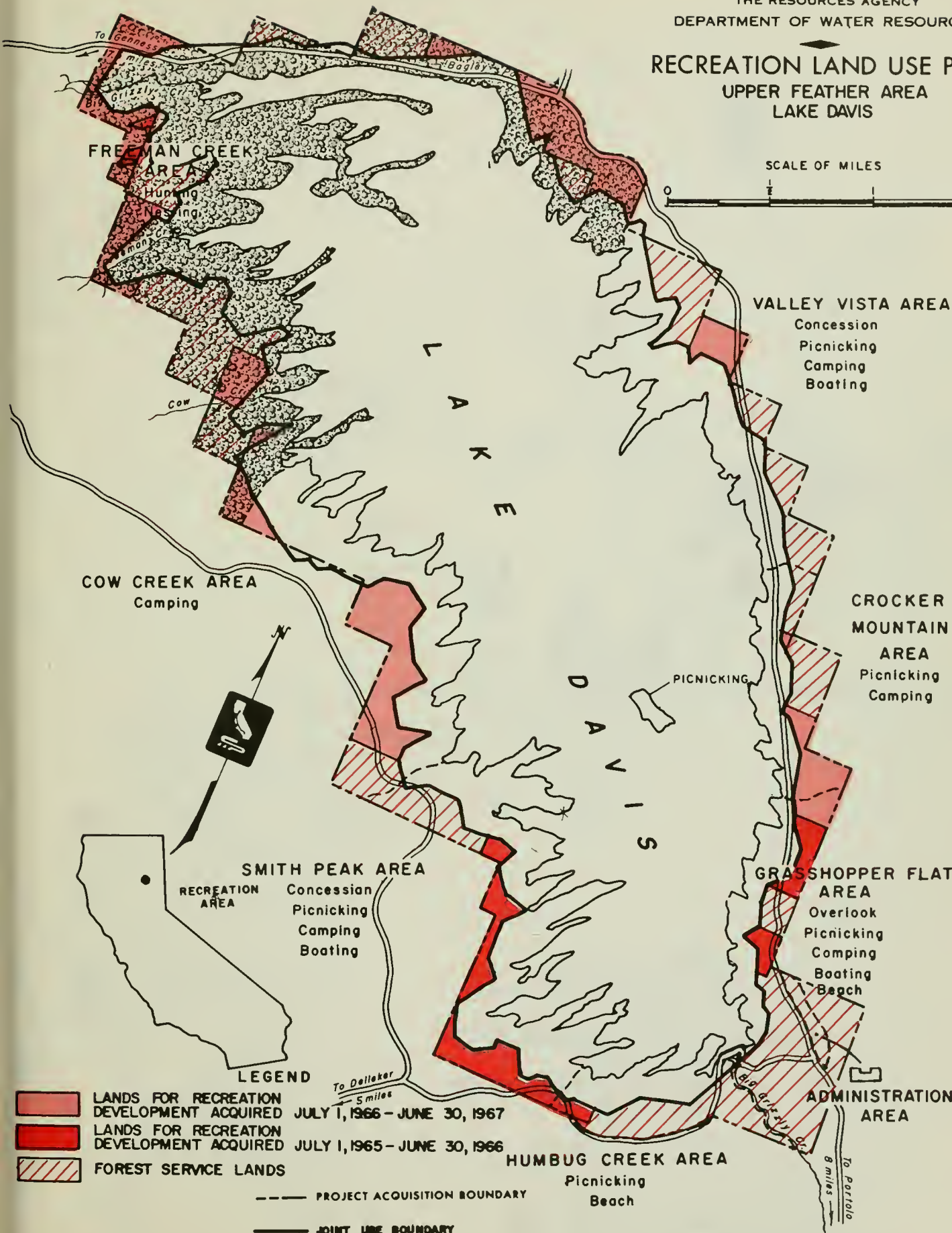
NOTE: ALL LANDS WITHIN ACQUISITION BOUNDARY
REQUIRED FOR FEATURES JOINTLY USED BY PROJECT PURPOSES

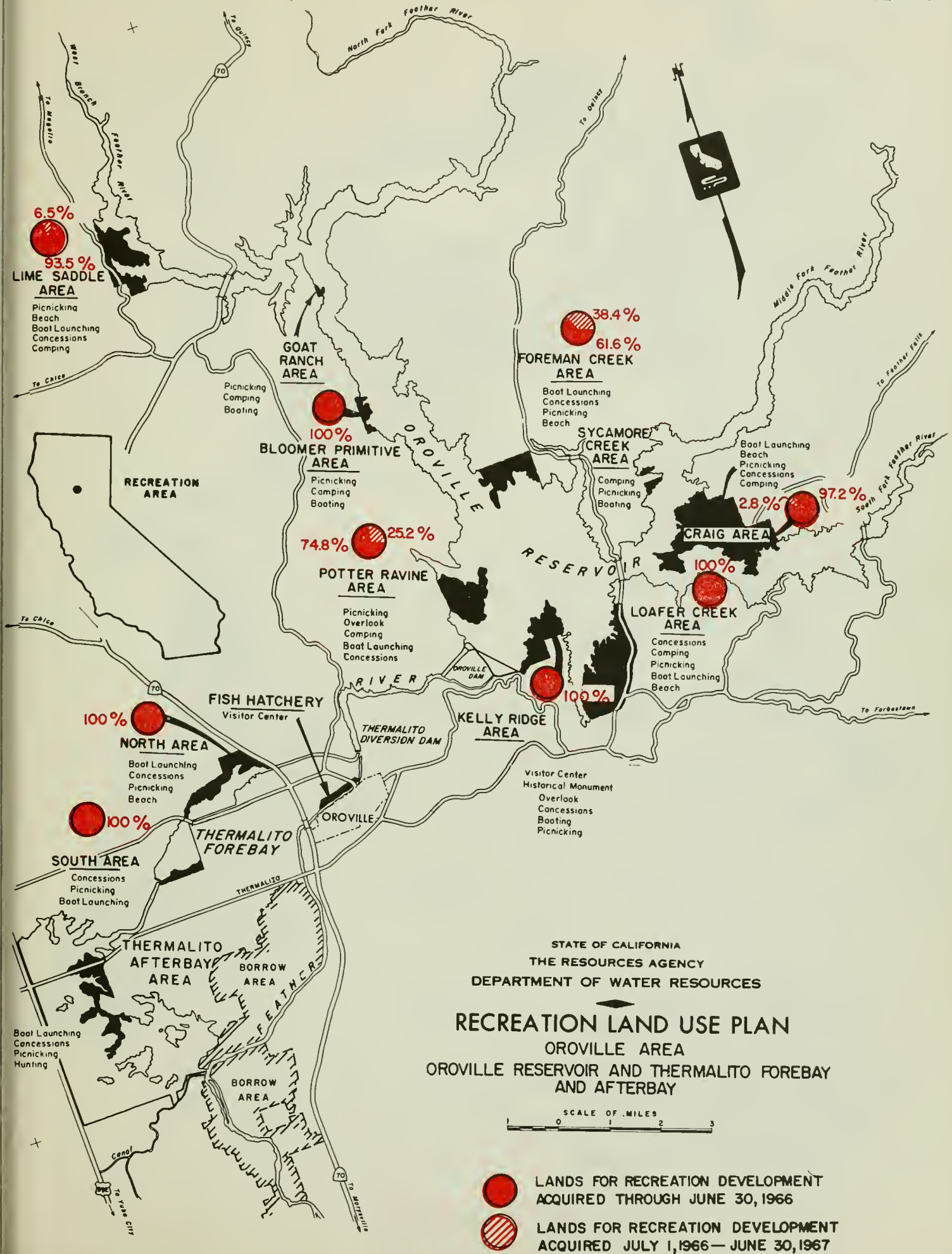
----- ACQUISITION BOUNDARY

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


RECREATION LAND USE PLAN UPPER FEATHER AREA LAKE DAVIS

SCALE OF MILES





LEGEND

-  RECREATION AREA
-  NATURAL AREA
-  PROJECT ACQUISITION BOUNDARY
-  RECREATION AREA BOUNDARY

SAN LUIS CREEK AREA

(Group Area)
Concession
Picnicking
Boating
Beach

MEDEIROS AREA

Concession
Picnicking
Camping
Boating
Beach

ADMINISTRATION AREA

BASALT AREA

Concession
Picnicking
Camping
Boating
Beach

HARPER LANE AREA

Camping

QUIEN SABE POINT

Picnicking

GOLDEN EYE AREA

Camping

COYOTE SPRINGS AREA

Camping

WHISTLER POINT AREA

Camping

DINOSAUR POINT

Concession

HONKER BAY

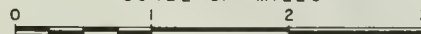
Concession

RECREATION AREA

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

RECREATION LAND USE PLAN CALIFORNIA AQUEDUCT SAN LUIS RESERVOIR AND FOREBAY

SCALE OF MILES



LANDS FOR RECREATION DEVELOPMENT
ACQUIRED THROUGH JUNE 30, 1966



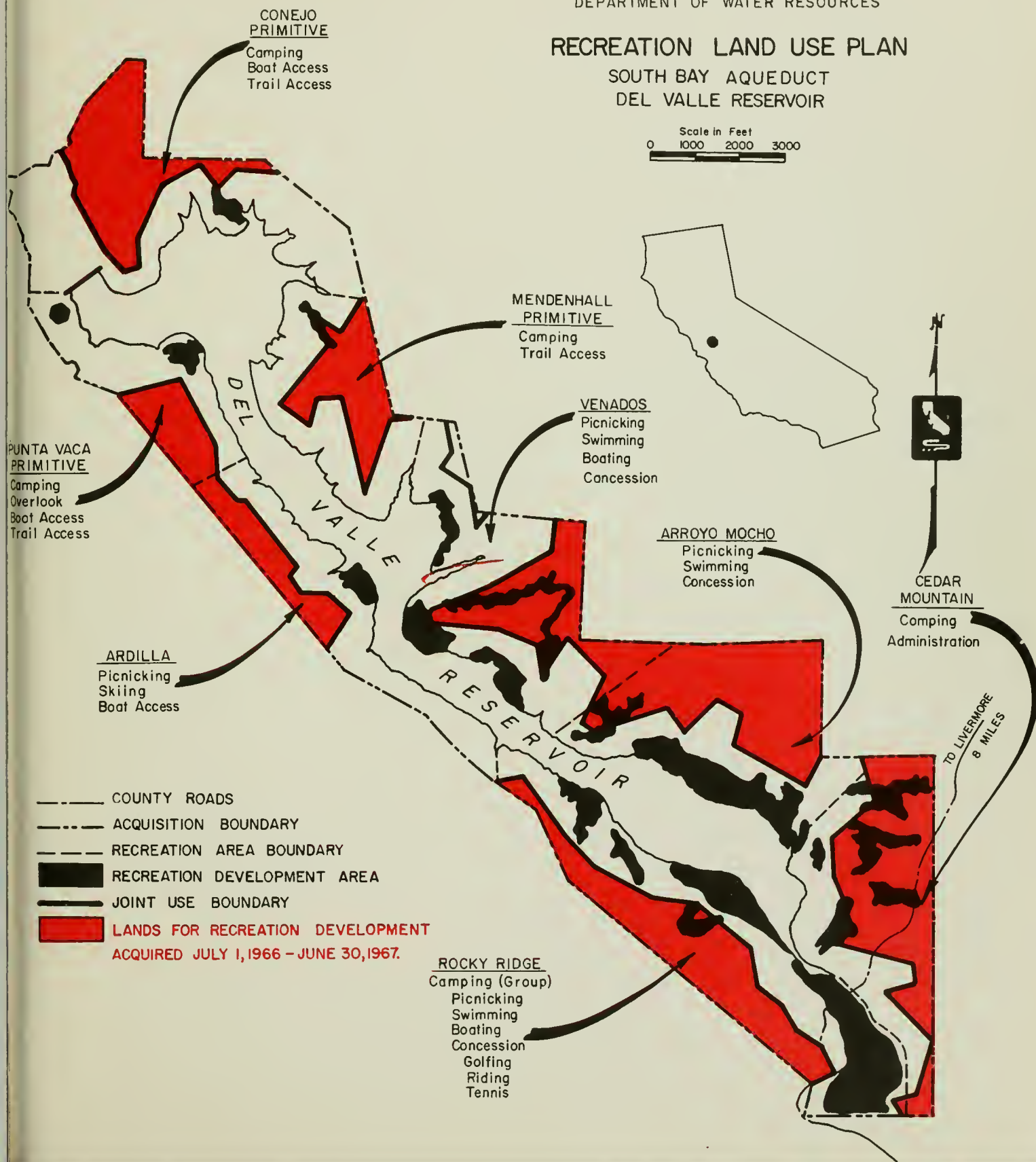
JOINT USE BOUNDARY

STATE OF CALIFORNIA
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RECREATION LAND USE PLAN

SOUTH BAY AQUEDUCT DEL VALLE RESERVOIR

Scale in Feet
0 1000 2000 3000



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